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GLEANINGS

IN BEE CULTURE

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THE A.I.
MEDINA



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OHIO

Western Edition.

ENTERED AT THE POST OFFICE AT MEDINA, OHIO, AS SECOND-CLASS MATTER.

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I have just finished unloading a car of bee-keeper supplies that were in the Kansas City flood, and some of the goods are good as new, some slightly damaged. I will sell at A BIG REDUCTION.

- 1 Cowan No. 17 honey-extractor, \$11.50
good as new, ONLY
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good as new, ONLY
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good as new, ONLY
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A lot of Danz. AD6 hives at a BIG Reduction.
A lot of 8-frame " at a BIG Reduction.
A lot of 10 frame " at a BIG Reduction.

SMOKERS, ALLEY TRAPS, FOUNDATION,
SOME OTHER SMALL GOODS
AT GREATLY

Reduced Prices.

I would not attempt to sell the above goods as new goods, but the hives when set up and painted would require close inspection to tell them from new goods. All the above goods are of the A. I. Root Co.'s manufacture and are just as represented. Write me in regard to the goods you want and I will explain to you further. Address all Orders and Letters to

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Get our prices before purchasing elsewhere. We are selling first-class make of goods at lower prices than the cheaper goods can be purchased for. If requiring Hives, Sections, Honey-extractors, Shipping-cases, Knives, Bee Smokers and Veils, Comb Foundation, or any thing else in the line of

BEE-KEEPERS' SUPPLIES

you should remember that

The L. A. Watkins Mdse. Co.
Denver, Colorado,

are headquarters for the State, and furnish local associations who can use as much as a carload at carload prices direct from the factory, or smaller lots from our well-furnished warerooms in Denver, at prices that defy competition for equal quality of goods. We are agents for THE A. I. ROOT COMPANY'S GOODS for Colorado, and want to hear from bee-keepers in need of supplies. We buy honey and wax.

Let Us Hear from You.



Announcement!

We desire to call the attention of all bee-keepers in Washington, British Columbia, and adjacent territory, that we're now the Northwestern agents for

THE A. I. ROOT COMPANY,

and are prepared to furnish from stock here, and at other Washington points, any thing required by bee-keepers. Send your specifications early. If we do not have the goods wanted this will enable us to get them in our next carload. Catalogs free.

LILLY, BOGARDUS & CO.,
Seattle, Washington.



Northern-grown Seeds, Trees and Plants,
Poultry and Bee Supplies, Spray Pumps,
Fertilizers and Garden-tools.

Honey Market.

GRADING-RULES.

FANCY.—All sections to be well filled, combs straight, firmly attached to all four sides, the combs unsoiled by travel stain or otherwise; all the cells sealed except an occasional cell, the outside surface of the wood well scraped of propolis.

A No. 1.—All sections well filled except the row of cells next to the wood; combs straight; one-eighth part of comb surface soiled, or the entire surface slightly soiled the out side of the wood well scraped of propolis.

No. 1.—All sections well filled except the row of cells next to the wood; combs comparatively even; one-eighth part of comb surface soiled, or the entire surface slightly soiled.

No. 2.—Three-fourths of the total surface must be filled and sealed.

No. 3.—Must weigh at least half as much as a full-weight section.

In addition to this the honey is to be classified according to color, using the terms white, amber, and dark; that is, there will be "Fancy White," "No. 1 Dark," etc.

SAN FRANCISCO.—Honey, new comb, per lb., white, 13@14; light amber, 12½@13. Extracted water-white, 6@6½; light amber, 5½@6; dark amber, nominal. Beeswax, 32c.

ERNEST B. SCHAEFFLE,

Murphys, Cal.

SCHENECTADY.—We have received a number sample lots of new white comb and extracted honey. Producers think the should get 14@15c for comb, and 6@7 for extracted, but it is yet too early to determine whether or not these prices can be realized.

CHAS. McCULLOCH,

Schenectady, N. Y.

Aug. 12.

BOSTON.—There is a little better demand for comb honey. Prices ranging about 16c for fancy white. Practically no stock to speak of as the new crop has hardly commenced to move. Extracted honey ranges from 6@7½, according to quality, with but little doing.

BLAKE, SCOTT & LEE,

Boston, Mass.

Aug. 11.

DENVER.—New crop of comb honey coming in rather slowly. No. 1 white sells at \$3.00 per case of 24 sections; No. 2 at \$2.75. White extracted honey, 7½@7¾c per lb. Beeswax, 22@25.

COLORADO HONEY-PRODUCERS' ASSOCIATION,
1440 Market St., Denver.

Aug. 10.

BUFFALO.—Demand for new honey is very slow. It is partly on account of warm weather and fruit season. Prices are a little high, and that helps to hold buyers back until it is settled pretty near what the new crop will sell for. Fancy white comb 14@15; a No. 1, 13½@14; No. 1, 12@13; No. 2, 11@12; No. 3, 10@11; amber, 12@13; dark, 11@12; white extracted, 6@7; dark, 5@5½; beeswax, 28@32.

W. C. TOWNSEND,

178, 180 Perry St., Buffalo, N. Y.

Aug. 22.

CINCINNATI.—New honey is now offered very freely, particularly extracted. The demand for honey is about as usual at this time of the season. I made sales at the following figures: Amber, 5@5½; water-white alfalfa, 6½; fancy white-clover honey, 7@7½; comb honey, fancy water-white, brings from 14@15. Beeswax, 27@30.

C. H. W. WEBER,

Aug. 8. 2146-8 Central Ave., Cincinnati, Ohio.

PHILADELPHIA.—Honey has been arriving quite freely in the last ten days. We quote extracted fancy white, 7@8; amber, 6@7; fancy comb honey, 15@16. No. 1 14@15. Beeswax in good demand at 30. We are producers of honey, and do not handle on commission.

WM. A. SELSER,

Aug. 8. 10 Vine St., Philadelphia, Pa.

MILWAUKEE.—There is more activity in the honey business since our last report. Receipts of new crops are coming forward, and sales being made. The quality of the stock received seems very fine, especially the sections showing care in grading and packing, thus encouraging the consumer to partake. We are expecting a good demand for all grades, and the market is in good condition for shipments. We quote for fancy 1-lb. sections, 16@17; No. 1 ditto, 15@16; old and new, dark or inferior, nominal, 8@10; extracted in barrels or cans, white, 7½@8; same, darker, 6½@7. Beeswax, 28@30.

A. V. BISHOP & Co.,

Aug. 6. 119 Buffalo St., Milwaukee, Wis.

TOLEDO.—Honey is coming in quite freely; and in spite of the warm weather it is in fair demand at the following prices: Fancy white comb brings, in retail way, 16; No. 1 ditto, 15; amber ditto, 12@13. Extracted, white clover, in barrels, 6; same in cans, 7. Beeswax, 28@30.

GRIGGS BROTHERS,

Aug. 7. 214 Jackson Ave., Toledo, O.

DETROIT.—Prices are not established yet on new honey. The crop is the largest we have had in many years in our section of the State. Quality is excellent. Small lots are selling for 15@16 for A No. 1. Commission men are waiting until prices are settled.

Aug. 8. M. H. HUNT & SON, Bell Branch, Mich.

FOR SALE.—Clover extracted honey, in 60-lb. cans. One can, 7½c; 2 or more, 7c. Bees for sale.

C. L. PARKER, Syracuse, Sta. A, N. Y.

FOR SALE.—Fancy basswood and white-clover honey; 60-lb. cans, 8½c; 2 or more, 8¼c; bbls., 7¼c.

E. R. PAHL & Co., Milwaukee, Wis.

FOR SALE.—Extracted honey, clover and basswood, in 60-lb. cans. M. ISBELL, Norwich, N. Y.

FOR SALE.—New extracted honey, from 7c up. Several sizes of packages. Sample 10c.

I. J. STRINGHAM, 105 Park Place, New York.

FOR SALE.—Alfalfa honey. Extracted in 60-lb. cans, and about 20,000 lbs. in comb. Prices on application. CHEEK & WALLINGER, Las Animas, Colo.

FOR SALE.—Fancy comb and extracted honey; extracted in 60-lb. cans. Prices quoted on application. WILLIAM MORRIS, Las Animas, Colo.

FOR SALE.—Extracted honey. Finest grades for table use. Prices quoted on application. Sample 1y mail, 10 cts. to pay for package and postage.

OREL L. HERSHISER,

301 Huntington Ave., Buffalo, N. Y.

FOR SALE.—5000 lbs. extra fine clover extracted honey, all sealed before extracting; castor oil body; good color; 60-lb. cans. Sample free. No cheap John need apply. If you need something special and are willing to pay for it, correspond with

E. D. TOWNSEND, Remus, Mich.

FOR SALE.—Thirty barrels choice extracted white-clover honey. Can put it up in any style of package desired. Write for prices, mentioning style of package, and quantity wanted. Sample mailed on receipt of three cents in P. O. stamps. EMIL J. BAXTER, Nauvoo, Hancock Co., Ill.

WANTED.—Comb and extracted honey; state price kind, and quantity.

L. H. ROBEY,

Worthington, W. Va.

WANTED.—Beeswax. Will pay spot cash and full market value for beeswax at any time of the year. Write us if you have any to dispose of.

HILDRETH & SEGELKEN,

265-267 Greenwich St., New York.

WANTED.—Beeswax; highest market price paid. Write for price list.

BACH, BECKER & Co., Chicago, Ill.

WANTED.—Comb and extracted honey. State price, kind, and quantity.

R. A. BURNETT & Co.,

199 South Water St., Chicago, Ill.

WANTED.—To hear from producers of comb honey in California and Nevada. It may sound unreasonable, but we have probably bought, for spot cash, more comb honey than any firm in the United States, during the past three seasons. We can, no doubt, do you some good.

THOS. C. STANLEY & SON,

Manzanola, Colo., or Fairfield, Ill.

We will be in the market for honey the coming season in carloads and less than carloads, and would be glad to hear from producers everywhere what they will have to offer.

SEAVEY & FLARSHHEIM,

1318-1324 Union Avenue, Kansas City, Mo.

The Best Bee-goods in the World

are no better than those we make, and the chances are that they are not so good. If you buy of us **you will not be disappointed. We are undersold by no one.** Send for our new catalog and price list and free copy of THE AMERICAN BEE-KEEPER; in its thirteenth year; 50 cents a year; especially for beginners.

**The W. T. Falconer Man'f'g Co.,
Jamestown, New York.**

W. M. Gerrish, Epping, New Hampshire, carries a full line of our goods at catalog prices. Order of him and save the freight.

We Make a Specialty of Prompt Shipments.

If you are in a hurry for supplies send us your order and we will surprise you with our promptness. All goods shipped within 10 hours after receiving the order. Over a million sections and two tons of foundation now on hand. Hundreds of hives, and all other supplies

READY FOR IMMEDIATE SHIPMENT.

Lewis's and Dadant's
Goods.

Lewis C. & A. G. Woodman, Grand Rapids, Mich.

HONEY JARS

1-lb. sq. jars with corks.....\$5.00 gross 2-lb. sq. jars with corks.....\$7.40 gross
Eagle or No. 25.....\$5.75 " Nickel Cap jar, holds 13 oz. \$5.50 "

The last is a fancy jar, and makes a fine package for exhibition. Discount on quantities of jars; the larger the quantity the lower the price. Catalog describing honey-packages, shipping-cases, cartons, bee-hives, bees, and every thing a bee-keeper uses, mailed upon application.

Tested Italian Queens, \$1.00; Untested, 75 cts.

I. J. STRINGHAM,

Apiaries, Glen Cove, L. I.

105 Park Place, New York.

Gleason & Lansing,

ESTABLISHED 1888.

150 Michigan St., Buffalo, N. Y.

Jobbers of Comb and Extracted Honey.

We have a large jobbing trade in comb honey, and can use any-sized shipments up to car lots. We want 5000 cases as early shipment as possible this season and can use all grades. Will buy delivered in Buffalo or handle for your account.

Correspond with us before placing your output this season.

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ITALIAN QUEEN BEES

Our untested queens give excellent satisfaction. They are bred by the best breeders, and are up to standard.

Prices are as follows:

1 Untested Italian Queen.....	\$.75
3 " " "	\$2.10
6 " " "	\$4.00

We are sending them almost by return mail.

The Weekly American Bee Journal and one of these fine queens, both for \$1.50. Sample copy of the Bee Journal sent free. Ask for it. You ought to have it every week. It is a great bee-paper—so they say.

ADDRESS

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"Root's Goods at Root's Prices."

Catalog Free.

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Our specialty is making SECTIONS, and they are the best in the market. Wisconsin basswood is the right kind for them. We have a full line of BEE-SUPPLIES. Write for FREE illustrated catalog and price list.

The Marshfield Manufacturing Company, Marshfield, Wis.

Dittmer's Foundation.

RETAIL AND WHOLESALE.

This foundation is made by a process that produces the superior of any. It is the cleanest and purest. It has the brightest color and sweetest odor. It is the most transparent, because it has the thinnest base. It is tough, clear as crystal, and gives more sheets to the pound than any other make. **Working Wax into Foundation for Cash a Specialty. Beeswax Always Wanted at Highest Price.** Catalog giving full line of supplies, with prices and samples, free on application.

E. Grainger & Co., Toronto, Ont.,
Sole Agents for Canada.

Gus. Dittmer, Augusta, Wis.

WANTED! Fancy Comb Honey

In No-drip shipping cases. Also, Amber extracted, in barrels or cans. Quote your best price delivered Cincinnati.

The Fred W. Muth Co., FRONT and WALNUT, Cincinnati, O.

BEE-KEEPERS

We have on hand ready for PROMPT SHIPMENT

The Largest Stock we ever Carried
of HIVES, SECTIONS, and all Other SUPPLIES.

Perfect Workmanship and Finest Material.
All parts of our Hives are made to fit Accurately.
No trouble in setting them up.
Our customers say it is a pleasure.
We are not selling goods on NAME ONLY,
But on their Quality.

G. B. LEWIS COMPANY,

Manufacturers Bee-keepers' Supplies.

Catalog Free. Watertown, Wisconsin, U. S. A.

QUEENS NOW READY TO SUPPLY BY RETURN MAIL

Stock which can not be excelled. Each variety bred in separate apiaries, from selected mothers; have proven their qualities as great honey-gatherers.

GOLDEN ITALIANS have no superior, and few equals. Untested, 75 cts.; 6 for \$4.00.
RED-CLOVER QUEENS, which left all records behind in honey-gathering. Unt., \$1; 6, for \$5.
CARNIOLANS—They are so highly recommended, being more gentle than all others. Unt., \$1.

Root's Goods at Root's Factory Prices.

C. H. W. WEBER, 2146-2148 Central Avenue,
CINCINNATI, OHIO.

(Successor to Chas. F. Muth and A. Muth.)

GLEANINGS

A JOURNAL DEVOTED
TO BEES,
AND HONEY,
AND HOME
INTERESTS.

BEES CULTURE

ILLUSTRATED
SEMI-MONTHLY
Published by THE A. ROOT CO.
\$1.00 PER YEAR MEDINA, OHIO.

Vol. XXXI.

SEPT. 1, 1903.

No. 17



WHITE CLOVER "usually lasts two weeks, and sometimes a month," at Medina, page 723. Some years it doesn't last at all here, but this year it has already lasted eleven weeks, and the end is not yet in sight.

ELIAS FOX, didn't you have a "stick" in that lemonade to make a little of it give up and become alkali, and then with sufficient recruits recover its spirits and change back again to acid? In this locality one may be overcome by the other, but I don't believe one is ever changed into the other.

AFTER READING IN GLEANINGS about the right way to hold a smoker, I was worried for fear I was pigeon-toed in my hands. I am now pretty well satisfied that I don't need any surgical operation, but that it's the editor who is pigeon-toed in his hands—or else in his head. [Now, look here, doctor; if you do not quit calling me names I shall get after you with both of my "pigeon-toed" feet.—ED.]

I HAVE one of the bee-brushes sent out by Mrs. Sarah A. Smith, as advertised in GLEANINGS, and they're fine for a wholesale sweep of the combs. They're made of some kind of grass, a sort of vegetable horse-hair, very fine and very tough, and should last well. Possibly they would be just a little better if the tip ends were not clipped off. [These brushes appear to be very soft and pliable. It is possible they would make the best bee-brush in the world.—ED.]

A CORRESPONDENT wants me to tell what kind of season I'm having. Bless your heart, the bees are driving me so I haven't time to tell. But I'll just take time to say I never saw such a flood of honey before,

and never expect to see it again. [That beats any thing we ever had here or expect to have; and I am beginning to feel that the region in and about Medina is almost as poor for the production of comb honey as any place in the United States, because our honey-flows are so very, very short.—ED.]

WON'T SOME ONE come between the editor and me, and clear away the smoke on the smoke question? We're square fornest each other in our impressions about the smoke of rotten and sound wood (by the way, I think the most savage smoke comes from green wood), but neither of us furnishes any proof. Who has any positive proof? [How can positive proof be produced unless we accept one's individual feelings and impressions after inhaling the smoke from rotten wood and that from hard wood? We have been trying our own experiments over again, and our experience is the same as before—that rotten wood will give a more subduing smoke than hard wood.—ED.]

YOU ASK, Mr. Editor, whether I hived shaben swarms (that swarmed afterward) on starters, etc. They were hived on full combs, although other years I used also foundation, and I think the combs gave better results than foundation. [Inasmuch as we had no swarms from bees shaken on foundation, and your bees shaken on full combs did swarm, it would look as if there were some merit in foundation. The fact that bees start housekeeping almost from the ground up, when put on foundation, puts them more nearly back to the condition of nature—that is, the hollow tree. The old combs have a tendency to suggest to the bees that they haven't swarmed, I think.—ED.]

INCUBATORS, or nurseries, may be used by other than professionals to advantage. I've been using them for queen-cells cut out of combs. Thus I avoid the chance of a virgin with a bad wing or a cell with a dead queen, and can hold over a virgin until needed. The Stanley cartridge has the advantage that the bees can get to the cells

as freely as if the cells were left on the comb, and the disadvantage that, if a hole is in the cell, the bees will tear it down; whereas in the Pridgen the whole side of a cell may be cut away and the queen still hatch out. The queens worry somewhat trying to get out through the perforations of the Stanley, and sometimes one gets through; but you can take a queen, cart-ridge and all, wherever you like, and can get her only by letting her out of her compartment in the Pridgen. [Your experience is quite in line with ours.—Ed.]

"THE SCARCITY of lumber for making sections may force bee-keepers into chunk honey more and more as time goes on," p. 721. Chunk honey may be all the go yet, for any thing I know; but the scarcity of lumber will be a very small factor in the case. If we can't have one-piece sections we can have four-piece made out of a dozen kinds of wood; and if all the basswood were swept out of the universe it wouldn't make section honey cost the producer half a cent a pound more, now would it? And do you think a rise of half a cent a pound would drive section honey out? Tut, tut! [No, a rise of half a cent a pound only would not drive section honey out of the market; but a big advance in the price of sections, and the enormous labor of handling four-piece as compared with the one-piece might make some bee-keepers become so disgusted and discouraged as to cause them to say they would either give up comb honey or turn their attention to the production of extracted and chunk honey, where there was less bother. The question of price is not all there is to consider in the matter. It is somewhat a question of convenience.—Ed.]

"WHY DO YOU NOT tell honey-producers to set an honest price on their honey, and then stick to that price? We have found that it is as easy to get 75 cents per gallon as it was to get 60 cents." Ah! but there's a limit to that thing, my good friend; and if each one were allowed to decide for himself an honest price, and then hold on to that price, I'm afraid in too many cases he would hold honey as well as price. You say, "If The A. I. Root Co. would put up the price, others would have to follow." The members of the Root company are old enough to answer for themselves; but I *think* they try to put the price as high as the traffic will bear. I'm hoping a little that something like what you are aiming at will be accomplished when all bee-keepers fall into line and become members of the National Association. I wish they would hustle in a little faster. Twelve hundred is something to be thankful for, but there ought to be twelve thousand. [It is folly to talk about advancing the price of any article or commodity unless there is some sort of co operation on the part of all those who have the commodity for sale. In a year when there is plenty of honey, when there are any number of offerings, the buyer al-

most hesitates to make any price until he knows to where the market will actually level up. But there is one thing that careless buyers may do; and that is, offer their honey needlessly low, thus in a season of scarcity depressing the whole market down to the lower level. Such buyers, if it could be done, should be made to pay well for their honey the next time.—Ed.]

REFERRING to the matter of queens being stung in a ball, Mr. Editor, you don't find any place where I placed any limiting clause. Please turn to page 276. "I don't know, but I *think* a queen is never stung in the ball, and I much doubt the physical possibility of such a thing. . . . Weren't the cases in which you saw the queen stung those in which you poked or smoked the bees away from the queen enough so that one of them could sting her? Left entirely to themselves, do you believe the bees could sting a balled queen if they would? Do you believe they would if they could?" etc. You see we are pretty nearly together, only I think it possible that bees left to themselves would merely hug a queen, even if they could sting her. In a nutshell, I don't believe a queen in a ball, undisturbed by the bee-keeper, is ever stung. There is still left, however, the bare possibility that I don't know as much about it as I might. [I give it up; but I am of the same opinion still, that the bees will sting a queen in the ball, when the apiarist is not interfering, if they can. But when their heads are all turned one way, and they are seeking to ball her, or, rather, to get to her, it is almost an impossibility, but not quite, to get at the queen stern first.—Ed.]



A writer in *Schweiz. Bienenzeitung* gives an interesting account of a queen and her daughter laying eggs side by side in perfect harmony for one whole year.

A reader in Hinckley, Minn., wishes to know how the words *apiary* and *apiarist* are pronounced. The *a*'s are long as in *ail*; the *i* is short as in *tin*, as is the *y*. This applies to both words. We shall be glad to make a specialty of answering such questions in this department.

A French paper has the following piece of pleasantry in favor of adulterated honey: Several women of Baden-Baden were brought before a justice, charged with having sold adulterated honey. Among the buyers subpoenaed as witnesses was the

proprietor of one of the most fashionable hotels there. While the other witnesses responded to the judge that they did not know the honey was adulterated, the landlord in question avowed frankly that the fact was known to him very well. Astonished, the judge asked him why he served such stuff, knowing it was bogus. "If I serve up genuine good honey," said he, cynically, "my boarders eat too much; while with this stuff here, they soon get enough."



AMERICAN BEE JOURNAL.

The issue of Aug. 13 gives a very fine half-tone of Thos. Wm. Cowan, editor of the *British Bee Journal*. Mr. York well says of this distinguished man whose name is so well known in the scientific circles of Europe and America:

Mr. Cowan is a most delightful man to meet. He is the very essence of affability and courtesy, and his character and ability are of the highest possible. He is a member of many of the famous scientific societies in England, and has won for himself a deservedly conspicuous position in them.



In regard to having your bowl ready when it rains soup, Mr. York well says:

It is not wise to wait to see what the harvest will be before ordering supplies needed to secure it. Some bee-keepers, who have followed that plan, have been badly caught this year. Their stock of sections has run out, and more could not at once be obtained, because they were not made, and the manufacturers were away behind orders.

The fall of the year is none too early to order for the next year. Count your fall number as wintering without loss, then figure the number of sections they will require should the season be the best you have ever known, and order accordingly.

But you say, "There will in that way generally be a lot of dead capital, for nine times out of ten so many sections will not be needed."

The loss from dead capital will be less in ten years than the annoyance and loss in one year of heavy flow, if you run out of sections and can not get any. It is better to make up your sections and get them all ready in the supers in winter-time or early spring, while not crowded with other bee-work. If you don't need them they will be all right for the following year. Even if not used for three or four years, they will take no hurt.



L'ABEILLE.

L'Abeille reports a good honey crop in Belgium. It says, "In spite of many bad days, great alternations in heat and cold, we shall have no fault to find with 1903. It has brought joy to the heart of a great many bee-keepers in this country. There is honey everywhere."

The editor of *L'Abeille* says he received, the last of June, through the agency of Mr. Giraud-Pabou, an Italian queen raised in the United States. He adds, "The abdomen is almost entirely a shining yellow as far as the last band. It is not without reason that these have been called golden queens. The daughters of this queen, hatched since her introduction, are likewise the most beautiful Italians, and the gentlest we have ever seen. We hope their value as honey-gatherers will be in proportion to their beauty."



BY EVA C. MURRAY.

A bee lit on a bright-red rose
That in the garden grew,
And stopped for just a moment
To drink the morning dew.

A gentle maiden passed that way,
And saw the lovely rose,
So plucked it from the graceful stem
And held it to her nose.

The saucy, angry little bee
Just stung with all its might,
Which made her drop the dainty flower
And run away in fright.

But ere she passed the garden gate,
A youth came wandering by,
And paused to ask her, "Pretty one,
Why is it thus you cry?"

"Ah!" sobbed the maid, "an ugly thing
With little things of lace
Did when I tried to smell the rose,
Just sting me on the face."

"The horrid thing!" the youth replied;
"We'll teach him better tricks:
Come show me where you left the rose—
This matter we must fix."

But when they found the castaway,
And hunted for the bee,
A Cupid from its petals sprang,
And laughed aloud with glee.

"Ha, ha! an easy catch, I'm sure,
So early in the day;
A rose holds bees and Cupids too—
Pray turn me not away."

And so they took the cup of love
He offered them, and drank;
And now for love and happiness
A little bee they thank.

MORAL.

It is the little stings through life
That help enrich the soul,
And help us, though we may not think,
To make our life the whole.





UNITING AND FEEDING FOR WINTER.

"Where is our buckwheat honey now, Doolittle?"

"Evidently all gone. Passed away in about ten minutes yesterday, and the hundreds of acres on which it was in such a flourishing condition yesterday morning might better have been left unplowed and unsown. But I pity the farmers more than I do us bee-keepers. We lose only a prospective honey harvest, while the farmer has not only lost his prospective crop of buckwheat, but all of his labor, seed, grain, and the use of his land. Such a hailstorm was never known before in this locality at this time of the year, and I hope such a one may never come again."

"And the loss of buckwheat only commences the loss. Oats and barley are so thrashed out that the fields will hardly pay for harvesting; corn is in shreds, beans are all broken to pieces, the pods as well as the vines; more than half the apples and pears are on the ground, and what remains on the trees have from three to twenty hail-stone dents in each fruit, many of these dents breaking the skin."

"Yes, I have seen all of these things, and I can not help mourning. But mourning will do no good. Let us talk about something brighter. What brought you over here to-day?"

"Well, I had several colonies of bees that I had calculated would build up for winter on buckwheat; but now there is no show along that line, so I came over to ask you what I had better do with these light colonies."

"Have they their hives full of comb?"

"No, not many of them. And that is one of the things which bother me. If they were strong in bees, and the frames all full of comb, I would try to feed them, although I could hardly afford to buy sugar for so many."

"Well, I would wait till the first of September, as we may yet have some honey from an unexpected source. If we do not, then I would unite these weaker colonies, doing it as early as the 10th to 15th of said month, as we never have any yield of honey worth speaking of later in the year than the middle of September."

"How would you unite?"

"On some cool cloudy day, when the bees fly but little, or, better still, some day near night, after we have had cool cloudy weather for a day or two, so as to keep the bees at home, I would take the weaker of two colonies and carry it and set it right on top of the colony I wished to unite it with,

stopping all cracks, if there should be any large enough to allow bees to pass between the two hives. As soon as the cracks are stopped, blow smoke in at the entrance and pound on the hives with the fist till the bees begin to make quite a roaring, this showing that they were filling themselves with honey."

"What do you want them to fill with honey for?"

"Two reasons—the first of which is, that they do not fight or quarrel; and, second, that the colony brought to a new location may mark their new home instead of going back to their old place of abode."

"Will this cause them to do that?"

"Yes. A few bees may return and hover about the place where they formerly stopped, but soon all will return, so no bees are lost."

"That is very simple. How long have you united in that way?"

"Every fall I have a lot of nuclei to unite, left after the season for queen-rearing is over; and last year I found that I could unite bees in this way without loss."

"But what about the combs?"

"After placing the hives having the colonies in together, as I have told you, wait a few days till the bees have had two or three flights, and have become accustomed to the new situation, when you will go and select out all of the best combs, and those containing the most honey, putting these into the lower hive. In this way you will be liable to secure fairly comfortable combs for the one hive."

"Yes, I see. But how about those which remain?"

"Shake the bees off from these, down at the entrance so they will run into the hive with the others, and then you can store these frames partly filled with comb for use another year. If much honey remains, you can put an enameled cloth over the hive having the bees in, and turn up one corner of it a little so that but few bees can come out of the lower hive at a time, and then set the hive having the combs left after uniting on top of this; and by uncapping what honey there is that is sealed, the bees will soon carry below what there is."

"How about the queens?"

"If you have any choice, you will want to kill the poorer of the two a day or two before uniting. If you do not have any choice, then pay no attention to this matter, and the bees will destroy one of them, as only one good queen is allowed to dwell in a hive at a time."

"That will be easy, as I do not know that one is better than another. But suppose that, when I have the colonies all united, and the honey all fed up, they do not have enough stores for winter. What then?"

"Then you will want to feed them till they do have enough."

"What shall I feed for this?"

"I would use a syrup made of granulated sugar, as I consider such fully as good as honey, and, as a rule, it is cheaper."

"How do you make this syrup?"

"Some simply pour boiling water on the sugar, and stir it till the sugar is dissolved; but for fall feeding, or in feeding for winter stores, after the honey harvest is past, I prefer the following to any other mode of making syrup: Fifteen pounds of water is weighed out and put into a tin vessel of suitable size. This vessel is then put over the fire till the water in it boils, when 30 pounds of granulated sugar is poured in, the water being stirred briskly while pouring or sifting in, so that the sugar will not settle to the bottom and burn, as such sugar is sometimes liable to do if not stirred. The stirring is kept up till the sugar is mostly dissolved, when the whole is left over the fire until it commences to boil again, when it is skimmed, if any impurities arise. After boiling and skimming, the vessel is set from the fire, when 5 pounds of extracted honey is stirred in, stirring for a moment or two till the whole is thoroughly mixed."

"What do you put in the honey for?"

"Before I used this extracted honey I found that occasionally a batch of syrup would harden in the feeders and comb. This honey proved to be just what was needed, for syrup thus made remained liquid day after day, even when not fed to the bees, and never hardened in the combs, although with this formula the syrup is nearly as thick as the best honey when fed."

"What kind of honey do you use?"

"I first used basswood honey, as I had the most of that; but of late years I have used that which has accumulated from the sun wax-extractor by way of a little honey being in the bits of comb and wax placed there for melting. This is the nicest kind for any feeding, no matter what the color may be, for the heat of the sun so ripens and thickens it that it is always prime for winter stores. But you will please excuse me now, as I have an engagement to meet at this time."



IN our last issue, p. 712, I inadvertently omitted to give Mr. Swarthmore credit for the wooden cell cup. While ours differed somewhat from the original Swarthmore shells, yet the main principle was just the same.

IN emptying out a smoker after a day's work, do not throw out all of the unburned fuel. Leave a little in, as it will ignite more readily than other fuel. The suggestion has been made before, but it will bear repetition.

ONE of our subscribers says that The Hartford Insurance Co., of Hartford, Ct., one of the strongest companies in the world, will insure bees. It might be well for our readers to find their nearest Hartford agent, and see what arrangement he can make.

THE events of the past season show the wisdom of ordering supplies for the coming season early. Discounts are lowest in the fall, beginning with September. If one waits till the season has almost or quite begun he will be almost sure to be disappointed.

EVERY once in a while a subscriber will write, at this time of the year, asking why his queens do not lay. For the benefit of beginners, perhaps it would be well to state that, right after the honey-flow, Italians especially will ease up on egg-laying—perhaps stop altogether. One need not be surprised if, at any time in September or October, he finds no eggs or brood, especially if the queen is a year or more old.

A CORRESPONDENT, in referring to the matter of easing the pain of a bee-sting, says it is his practice to blow smoke on the spot just stung. This is a common and well-known practice among old bee-keepers; and, in fact, it is about all that can be done. The heat, to a certain extent, alleviates the pain, and the smoke itself deodorizes the smell of the poison, which seems to infuriate bees otherwise peaceable.

A CHEAP AND EXCELLENT BEE-BRUSH.

IN this issue, Mr. Elias Fox tells how to make the best bee-brush in the world, out of an ordinary ten-cent broom. This is one of the best items we have received in many a month, and I hope every one of our subscribers will take time to read this little Head of Grain, even if he reads nothing else.

A GOOD TIME TO REQUEEN.

NOW is a good time to supersede inferior or undesirable queens. The untested are now at their lowest price, and the exchange can be made with very little interruption in the work of the colony. Indeed, if a young queen be introduced, displacing an old one, she will probably start egg-laying and give the new colony a fresh impetus, where an old queen might conclude that her job was done for the season, laying few or no eggs.

ENTRANCE-CONTRACTING IN THE FALL.

THE time is likely to come on very soon in many localities, even though it may be very warm now, when we shall have cool nights. It is then advisable to contract the entrances of all hives that have been opened for the honey-flow and the flight of numerous bees flying in faster than one can count. Deep entrances are a good thing in their

season; but they are a bad thing in cold or cool weather. Bees should be given every possible aid in keeping their brood-nest warm. If they should be rearing any brood, it should be protected.

PHOTOS FOR ILLUSTRATION.

WHEN sending in photos for illustration in GLEANINGS, be sure they are clear, well timed, and well printed. A hazy, steak picture, is something we can not use. Pictures for half-tones must be printed a little dark in order to bring out a good tone on the printed page. The process of engraving photos fades out the dark shades, making the picture come out more brilliant. A light-printed picture will fade so much in the process of engraving as to be decidedly weak.

THE WEATHER AND RED CLOVER.

WE have been having, till within the last week or so, cool August weather — so cool as to be chilly at night, making a grate fire feel comfortable. At the time of this writing, Aug. 24, the weather is exceptionally warm, and we are "enjoying" a genuine drouth. We have had no heavy rain since the 30th of July, a period of 25 days. Great quantities of goldenrod are out, and there is considerable red clover. There is little or no robbing in our yards; and we attribute this largely to the fact that our bees have been bred to work on red clover. There is enough of it out to keep them busy—at least to keep robbers from nosing around when the hives are open.

SELLING UNFINISHED SECTIONS.

I HAVE before told of our method of disposing of these at the close of the season. As the plan works so admirably, and our newer readers know nothing of it, I have decided to give it again. Unfinished combs, or partly filled ones in sections, will not sell. We cut these out, however, putting one or two of them, according to their weight, into a common wooden butter-dish costing but a fraction of a cent. In some cases we get almost as much, and at others fully as much for these as we would for No. 1 sections. There is something about the chunks of glistening sweetness in its pearly-white comb that attracts the eye. It makes the prospective buyer think of the days of his grandfather or of his father. "That is honey," he exclaims. He buys it once, and buys it again. There is no better seller in our retail honey department than these broken chunks of honey in butter-dishes. If you never tried the plan, get a gross of wooden butter-dishes, and see how quick that kind of goods will move off.

INTRODUCING TWO VIRGINS AT A TIME; A SCHEME OF HASTENING FERTILIZATION.

OUR Mr. Geo. W. Phillips, of the apia-ry, has struck upon an idea which, if not new, is something I have not seen in print. The bane of all queen-rearing yards, or in

some, at least, is in getting queens fertilized. It is easy enough to make artificial cups; to graft them with royal jelly and selected larvæ; it is easy enough to get large beautiful ripe peanut-shaped cells; it is easy enough to get the occupants hatched; but getting them fertilized — aye, there's the rub. Mr. Phillips has shortened the process by nearly a half, and at the same time reduced the risk of loss. Well, what is it?

Here is a colony, we will say, that is queenless. Instead of giving it *one* caged virgin, to be released on the candy plan, he gives it to *two* of flying age; but the loose slide protecting the candy is removed, exposing the food in one cage, leaving it in the other cage covered by the slide. The bees will release the queen of the first mentioned. In a day or so she will become fertilized, and go to laying. The other virgin is kept caged in the mean time. As soon as queen No. 1 is laying, she is taken out, and *at the same time* the slide covering the candy to the other cage is set back, the bees release queen No. 2. Before that is done, another virgin is put into the hive, caged with the candy protected. Queen No. 2 is accepted, and ere long begins to lay. She is removed, and the slide of cage No. 3 is slid back, and another virgin put in, and so on the cycle proceeds. The point is here: Both queens while in the hive acquire the scent of the bees and of the comb, so that when one queen is removed the other queen is already introduced except releasing, which the bees do in a few hours, and she again is in a fair way to become the mother of the flock. During the interim between the time the queen is released and when she becomes laying, the queen is acquiring the scent of the colony.

But Mr. Phillips goes one step further. Here is a colony that is not queenless, but we wish to sell the queen in two or three days. He accordingly cages the virgin in the hive, and three days after removes the laying queen, exposes the candy of the caged virgin so the bees can release her, when she is immediately accepted. There, don't you see there is a lapse of only a few hours of actual queenlessness? We will say that, in five hours after the laying queen is removed, the virgin is stalking abroad over the combs, quite at home.

This thing is no experiment. We have been testing it for weeks to see if it would work under all conditions.

If the virgins are hatched in nurseries, and a supply of them is kept on hand, no colony need be queenless more than long enough for the bees to eat out the candy, which I should say would take about five hours as we provision the cages. By this plan one can get almost a double output of queens.

When using the upper-story plan of having three nuclei in a super above wire cloth, one can actually have six virgins to one colony of bees, and the cycle will keep on revolving, one queen being fertilized, we

will say, every day. No matter how cool the weather nor how late the season, the strong colony below will keep the bees warm above; then when the season is actually over, withdraw the wire cloth, closing the subsidiary entrances, putting all the bees into one colony.

THE GREAT NATIONAL CONVENTION AT LOS ANGELES.

THE great meeting of the National Beekeepers' Association took place at Los Angeles, Aug. 18—20, as scheduled. Judging from the newspaper reports which have come, and a photo of the whole convention that have been published in one of the dailies, this was a grand conclave of bee-keepers. The papers say that every State in the Union was represented; but I fear this was a little overdrawn. But I know there were representatives from several of the Eastern States, including, of course, a large number from the Western States. Every thing passed off lovely with one exception, and that was a "hot debate" at one of the sessions. There is no one who attends these bee conventions who likes to hear and see these "scraps;" and many are inclined to say they do not pay their good dollars and take a long railroad ride to witness any thing of the kind, and that if it is to be repeated they will keep away.

Dr. C. C. Miller and A. I. Root were styled the "Fathers of the Colonies," because both have spent over forty years in the culture of bees and the study of possible improvements. At one of the impromptu receptions for the leading men of the convention, these "old-timers" "were loosened up" to an extent that they told stories on each other. From a clipping from one of the papers I take the following:

"Over forty years ago," said Dr. Miller as he settled himself in the pillows of the bed, "that man A. I. Root slept in the same bed with me, and kept me awake until midnight telling me how he was going to make a fortune at bee-raising. He had a scheme to tap the maple-trees, and run the sap direct into the bee-hives and supply honey with a maple flavor. Last night, forty years later, he told me of another scheme until I had counted thirteen passing milk-wagons."

Mr. Root flushed quickly at the hearty laugh of the bee-circle, but came back at his accuser. "That is all right. I worked the sap scheme, and can taste that honey now. Dr. Miller was just a drummer for a music-house; then, and did not know a drone from a worker. I was just starting up my plant, having sold out a small jewelry-shop to go into the business. I had just paid twenty dollars for one Italian queen-bee, and the neighbors thought I was getting daffy on the subject. But I was in the business to stay, and it was not long until I made a record of thirty pounds of honey from one colony in two days. One year I had so much honey that I had to borrow all the wash-tubs in the neighborhood to hold it; and when wash-day came, and my barrels had not yet arrived, I was almost forced to dump the honey into the cistern by the impatient housewives."

But there were at this convention two other veterans, old-timers on the coast, in the persons of J. G. Corey, of cold-blast-smoker fame—one who, aside from his connection with this implement, was a successful and extensive bee-keeper, and Mr. J. S. Harbison, of San Diego, who at one time enjoyed the reputation of being the most

extensive bee-keeper in the world; and, indeed, I think it is a little doubtful if to-day the man lives who has produced larger averages or larger crops of honey than this veteran of the Golden State during its early history. The new officers are as follows:

President, J. U. Harris, of Grand Junction, Col.; Vice-president, C. P. Dadant, of Hamilton, Ill.; Secretary, George W. Brodbeck, of Los Angeles, Cal.

No more satisfactory or deserved selections could have been made; and under the leadership of these men the next convention, wherever it may be held, is sure to be a success. Mr. Harris has been one of the leading bee-keepers on the western slopes of the Rockies. He is president and one of the leading members of the Colorado Beekeepers' Association; and in parliamentary work no better man has ever been put in the place. He is an excellent organizer, a natural and forcible speaker on the floor, and a bee-keeper of no mean repute.

Mr. C. P. Dadant, of foundation fame, is almost too well known to need any introduction to our readers. He and his much-respected father were, perhaps, the best-known of any two bee-keepers in both hemispheres; and his election to the position will be hailed with delight by his many European admirers who have long looked to him and his father as the Gamaliels of modern apiculture.

Mr. G. W. Brodbeck is president of the California State Association—an organization that bids fair to be as successful as the one in Colorado. It has already started out with flying colors. Indeed, with such a president at the head of it, it could hardly be other than a success. My correspondence with Mr. Brodbeck has been of the pleasantest kind; and if I may judge any thing from passing references in letters and in public print he is one of the most popular bee-keepers in California. He, like his fellow-workers, will give the grand old National another upward boost.

There was also present Prof. A. J. Cook, of Claremont College, and formerly of Michigan; and if there is any one man among all the bee-keepers who is at home in convention work, it is Prof. Cook.

Then there were some other men like Mr. J. F. McIntyre, whose beautiful apiary I have shown, and N. E. France, of Wisconsin, General Manager of the Association. Both added much to the interest of this great meeting. Then there was Mr. W. F. Marks, President of the New York State Association; Prof. Frank Benton, of the Department of Agriculture, Washington, D. C., and—well, dozens of others of prominence from all over this great and beautiful country.

I am convinced from the press reports that it will go down in the history of the Association as one of the most notable, interesting, and profitable meetings the Association has ever held, and that Los Angeles is an ideal place for holding a big convention.



READING BEE-JOURNALS.

Importance of being Posted in the Late Developments of One's Business; Comments on Late Items in Gleanings by perhaps the most Extensive Bee keeper in the World.

BY W. L. COGGSHALL.

Mr. Root:—When I see a good labor-saving device it makes my heart glad; or when some bee-keeper writes an article that gives a shorter cut for doing any thing it pleases me, and I say to myself, "He is a benefactor." To be an up-to-date bee-keeper he must read every thing between the covers of the bee journals, advertisements and all. Don't skip a thing if you are starting in to make money out of bees. You must know every writer and his address, so if there is any little thing in his article you can send a stamp and find out something that will be worth dollars to you. Write questions so they can be answered by yes or no; then you will get a prompt reply.

Out of the fifteen young men who have worked for me at bees, twelve are still doing so for a living. The most successful ones are farmers' boys who were willing to do any kind of work on the farm. The most successful ones are those who read the most, and talked bees at all times and places.

I wish to emphasize the fact that a desire to talk bees is important. It is better to have it as a hobby if one would succeed. One of my bee-students said to me while going to an apiary:

"In your opinion, will John make a successful bee-keeper?"

"I hardly think he will."

"Why not?"

"Because he is more inclined to read story-books and daily papers."

"Yes, but he does read bee-papers."

"I know it; but he prefers books and daily papers. You ask him if he has seen the scheme of Mr. G. B. Howe, of Black River, N. Y., for setting drawn combs in under the brood-nest to stop swarming; or Mr. W. K. Morrison's article on shallow hives, and he will probably say, 'No; which paper was it in?' and to the last one, by Mr. Morrison, he would say, 'Yes, but I did not think it amounted to much.' I thought there were some good points in it; also drawn combs instead of foundation. Lewis, did you notice when I asked John how the second chaff hive from the beehouse did last night (the Robey queen), if it had any more honey than the rest?"

"Yes, I did, and was surprised when John said he did not see any difference. It was always fuller when I emptied it."

"Say, Lewis, did you notice Mr. Greiner's way of wiring frames in last GLEANINGS? What do you think of it?"

"I can wire four to his one, your way, Mr. C., when you wire 100 or 200 wires on a board, and cut them off just the right length."

"Say, Lewis, what did you think of the Hochstein device for putting a comb on a stretcher to uncap it?"

"I could uncap one side before he got it on the stretcher, with one of your little honkey-knives that I. L. Schofield gave you."

"They are dandy. I wish he had opened his heart and given me a dozen."

"That knife is 28 or 30 years old. He got a blacksmith to make it!"

"Say, Lewis, did you notice what Prof. W. Newell, of College Station, Texas, said?"

"Yes, I did, Mr. C., and also the footnote where the editor recommends rotten wood and dry maple wood. The only reason I can see why the editor recommends hard maple wood is because his customers will burn out more smokers, and then he can sell more—burn up more chaff hives, etc."

"I have a notion to send the editor a sack of my saltpetered burlap, all tied up ready for the smoker—just the right size. It goes off like excelsior, and lasts four times as long, and gives no heat, no sparks, is very light to handle; smoker will last for ever; is ready in twenty seconds. Did you notice in H. G. Osburn's article, page 670, where he said he got 73,000 lbs. from 6000 hives? I think there is a mistake here. I believe he meant to say 600 colonies."

"Mr. C., what do you think of the editor's idea about Cuban honey in American markets?"

"I think he is off. He will have to wait only one or two years before he will see the effect of it. It will surely depress our market. I have run up against it in Philadelphia. Before the war I saw 50,000 lbs. on the wharf at a time. 'We use Cuban honey,' would be the reply; 'it is cheaper. Labor is cheaper there—four to eight dollars a month.'"

"Mr. C., did you see how Mr. Burnett went for New York buckwheaters and the lightning operators for taking honey off before it was capped? What do you think of it?"

"Yes. Not much escapes my eye that is printed in the journals, and I am glad to see you notice all these things."

"Well, it is a good thing for Mr. Burnett that all the lightning operators are all out of the buckwheat State. There is S. A. Niver. He always calls himself a buckwheat. He is right within arm's length of Mr. Burnett."

"I should think he would take Mr. Burnett into one of those dark alleys for a few minutes. But, laying all joking aside, the article will do young bee-keepers a great

deal of good if they will only read it and heed it."

West Groton, N. Y.

GOLDEN ITALIANS.

Some Experience with Them; Gentle, but Slow to Enter Sections; Bent on Superseding.

BY J. W. GUYTON, M. D.

I introduced the golden bee into my apiary in 1900. In 1901 I bought another queen, and from these I soon had all of my bees golden except some blacks that I bought. I purchased seven golden queens, and introduced to the blacks. These queens were procured from three different breeders. I also got a third breeding-queen last year. I reared and sold a great many queens from this breed. I find them gentle enough and fair workers, but not as good in some respects as the leather-colored three-banded strain. They are slow to enter sections; they persist in chucking honey in the brood-nest; and if the queen is not prolific enough to keep ahead they crowd her down to a very small space. This is objectionable to the producer of section honey. To me they seem a shade smaller than the three-banded Italians. This I think objectionable, from the fact that they can not carry as much as a larger bee. It is true that they can fly fast, and perhaps because of their diminutive size they may be somewhat swifter on the wing than their larger sisters.

I do not think the queens are, as a rule, as prolific in egg-production as the other strain. However, they have two redeeming features that I can recommend. The first and best is the introduction of an apiary of goldens in a neighborhood of black bees. They seem to fuse more stripes into the black strain because of this predominance in stripes over the regular Italians. When we practical bee-keepers get a cross in our apiaries we detect it at once, and annihilate her queenship soon.

The other feature is their golden color, which makes them so beautiful. They are inviting to the owner of blacks, and he wants to introduce them into his stock; and to do this he will then have to introduce movable-comb hives, which is worth a great deal to apicultural progress.

Last year some of my goldens acted very strangely, and some of them are repeating the same objectionable act this year. They are bent on superseding. It seems to make no difference whether the queen be young or not. I have had several young prolific queens replaced by them, some not over from one to three months old. I kept as many as 100 and over of the three-banded bees over twenty years ago, and don't remember their being nearly so bad as the goldens I now have. Is this out of the usual way, or is it a characteristic of some strains of any strain of bees?

I have noticed that our best or largest

honey-producers do not keep the golden strain, although some of our best queen-breeders are boosting them up as hustlers. I will not keep blacks or hybrids any longer than is required to replace them with pure blood.

I should be pleased to have some reports on this strain, as I have not noticed any thing lately about them in the journals I take. Have honey-producers, men who want honey, who tried the goldens, quit them? What are the most potent objections to this strain?

I think that, as a rule, the best of every thing is the cheapest in the long run. If the goldens are not the best all-round bee, I do not want them, and yet I think they are the bees to keep among blacks, as above stated.

Horsemint has been in full bloom over five weeks, and will last ten days or two weeks longer, and my bees have hardly begun to operate in the sections. I know the rainy weather has a great deal to do with this failure. Sumac will be in bloom about the 15th inst., and will last six weeks.

Levita, Texas, July 2.

WIRING, BEE-SIFTER, ETC.

BY F. GREINER.

I was astonished, when reading GLEANINGS for Aug. 1, p. 677, that you credit me with an invention of a frame-wiring device which totally differs from the machines I use and have used for some time. There must be a mistake somewhere. My machines are much more valuable. They work so absolutely automatically that I have not even to pull the lever. All I do to make these machines work after the frames are furnished, and the pieces of wire properly cut, is to operate the communication between my own brain and that of the machine by way of speech, and let my wish be known. My two girls, 10 and 12 years old, then do the work to my entire satisfaction. I would here add, that I use a brood-frame two inches deeper than the regular Langstroth frame; and when I commenced to wire them I used four wires. I have kept reducing the number of wires, and find that two wires are just as good as more. It is much easier to secure the two wires in place, and of proper tension, than the four, and it requires less wire and time to do the wiring, besides saving time in imbedding. It may prove of value to the friends to know this.

After using quite a little brood foundation with young swarms and otherwise, it will seem to me that the most valuable feature of wiring is the securing of comb foundation exactly in the center of the frame where it should be. I am a little doubtful whether this result can be secured with less than two wires; but I shall try just one in a few frames when buckwheat begins to yield honey.

Dr. Miller tells somewhere of late how he

dresses when at work in his apiary, and it seems that he has reduced the number of garments to the lowest minimum possible and yet be clad. This would not suit me, nor meet the requirements of Coggs hall, I am sure. My bees do not respect a single thickness of covering as would be desirable, and I therefore prefer a light suit of underwear in addition to what the doctor wears. When not too sultry and warm I add another garment, a white jacket, close-fitting at the wrists. I am then prepared for almost any emergency. I don't wish to carry the idea, that my bees are extremely vicious; but handling bees as rapidly as possible, one is quite apt to excite their stinging propensities more or less, and it is better to be well protected. To prevent bees from ascending the connections my upper self has with mother earth, and make unpleasant investigation in the space between underwear and outside covering, I incidentally hit on the guards used by bicycle-riders. They are quickly applied, and answer well.

The new pattern of the Corneil smoker I regard as a success. An asbestos covering and wide shield might be added advantageously, and heavy iron substituted in the making of the fire-barrel; but I can not see what better Mr. Arthur C. Miller could want. I don't know that it would be desirable to get up these smokers so they would last a lifetime. I like to have and use a new implement occasionally, and I am glad one of my old Corneils, after five or six years' use in the home yard, where the work is harder on the smoker than in the outyards, begins to show signs of old age.

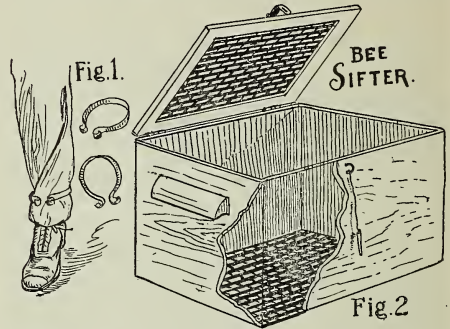
It is a good plan to clean out the smoker after it has been used hard and while it is still hot. The greater part of the accumulations are then quite soft, and may be scraped off with a suitable tool.

Many of the bee-keepers in Germany know nothing about the convenience of a good smoker, but handle their bees by the use of cigars. This would not suit me, and I notice that even Americans given to smoking tobacco consider it better, more convenient, and more business-like, to use the smoker.

Before closing my communication I wish to speak of a contrivance which might help some bee-keeper somewhere and some time. It is not any thing particularly new. The bee, drone, and queen sifter I wish to describe has been used by the inventor, Mr. Hannemann, of Brazil, in some form or other for a great many years. The way I have constructed it is this: A light open box, the size of a hive-body, was covered at the bottom with a sheet of queen-excluding zinc. A cover was hinged to this box, and also covered by the same material. This device comes handy many times when unexpectedly a swarm is found hanging in a tree. Many, who may not wish to increase their colonies any more, may sometimes be puzzled to know what to do with such a swarm. They might wish to return it. Particularly in case of late swarms, buckwheat

swarms, etc., such as would not be able to fix up for winter in good shape, it is always best to return them.

I have come home occasionally from the work in an outyard and found a swarm hanging on a bush, although I practice clipping. In such a case I would at once proceed to shake the cluster of bees into my



sifter, and shake and shake till all the bees are in the air except the imprisoned drones and queen or queens. Of course, the bees would soon go back to their old home, and could be located.

The bee-keeper will find this sifter convenient to use at other times. The occasions will present themselves sooner or later, and I need not say any more about it.

Naples, N. Y., Aug. 5.

[The wiring-device and the article credited to you on page 677 we find should have been credited to your brother, G. C. Greiner. Through some mistake the substitution was made. The fact is, both of you have almost the same handwriting, and your general style is much the same.]

Your bee-sifter seems to be a good thing. We should like to hear from others who have tried it or who may try it after making one. I have used bicycle pants-guards with a great deal of satisfaction in the manner you have shown. We at one time thought of cataloging and selling them; but we concluded that such a common article of sale, and used so universally, would hardly pay us for giving it space in the catalog.—Ed.]

A THREE-BAND-ITALIAN-BEE CLUB.

Whither Are we Drifting? is there Danger in Pursuing the Fad for Four and Five Yellow Bands?

BY J. M. GIBBS.

I am slow to ask for the space afforded by GLEANINGS, for fear I shall not be able to write something that will benefit some one somewhere. I have become alarmed at the extent that our queen-breeders are advertising almost all breeds of queens "in their purity." Now, I have been taught by

GLEANINGS principally, and to some extent by other bee-journals and their correspondents, that the three-banded Italian is the best all-around bee; and from my limited experience with this bee I don't see how it could be improved upon for general good qualities. I must confess that I am afraid of the other foreign races of bees—so much so that I would not now order a queen from a breeder who claims to breed them all "in their purity." I don't care how far apart his apiaries may be. We all know that the mating of queens is very hard to control, and that two races of nearly the same color may be crossed, and the only distinction in the cross might be in the disposition of the bees. I have a neighbor who bought, or at least ordered, Italian queens from a breeder who has given some attention to (foreign) other than Italians, and I am persuaded that he got some mixed blood, from their general appearance, and from what he says of their "mean disposition." I am anxious for the purity of the Italian blood. I am not afraid of the black (native) bee. We can trace him, and weed him out; but I don't want to mix with a color we can not detect, and distinguish from the Italian without consulting their tempers.

I suggest to your readers who may "side" with me that we organize a three-band-Italian-bee club, for the purpose of taking better care of these bees, purifying and improving them, and for the purpose of discouraging the breeding and scattering of other races of bees over the country, thereby endangering the purity of the Italian bee, and jeopardizing the interests of apiarists everywhere.

I do not want to be put down as saying that queen-breeders as a rule are unscrupulous enough to breed any thing that they can make money out of; but I know, and we all know, that the world at large is for ever and eternally after something new, and a man is not always to blame for trying to make money out of their mania; but it should not be tolerated in this instance, to the detriment of the world's best—the gentle hustling, three-banded Italian bee. Statesville, N. C.

ANOTHER HONEY-PLANT.

BY A. C. WATTS.

I wish to add to your list of bee-plants the Palestine olive-bush. It commences to bloom about the first of June, and continues till about the first of September, and is the greatest bee-plant I ever saw. The plant is raised from the seed, and will commence to bloom the second year of its age. I have had the bush three years. I find it does well in East Texas, and I guess it will grow anywhere in the United States. This bush needs no cultivation. You can plant it in the yard or in the corners of the fence. It will grow anywhere about the place.

My bees are working at the bloom on this bush every morning before it is daylight. If any one wishes to try this bush I have a few seeds that have come on my bush this year. It can be sent by mail.

Nettie, Tex., Aug. 5.

PARTHENOGENESIS.

Three Kinds Explained; a few Wonderful and Interesting Facts in the Reproduction of Certain Kinds of Insect Life.

BY E. F. PHILLIPS.

[The writer of the following article, Mr. E. F. Phillips, is the scientist who spent some weeks with us here in Medina, investigating the subject of parthenogenesis. As I have previously explained to our readers, he is taking a post-graduate course at the University of Pennsylvania. He is thoroughly familiar with all that has been written on the subject of parthenogenesis, notwithstanding that the literature bearing on that interesting subject would make quite a library. He found that there were some phenomena connected with this subject that had never been satisfactorily explained. Desiring to investigate the matter still further, he asked for and received the privilege of coming to Medina, and drawing from our apiaries such material as he might need. At the time of his visit here he was preparing a thesis on parthenogenesis—a paper that will be read by some of the best scientific men in the world. This, or the first draft of it, he was kind enough to read to me, and I was so much interested in it that I asked him to prepare, if he would, one or two articles on the subject, for popular reading, leaving out all scientific terms, and giving us a glimpse into the wonderful realm of nature. This he has done in his first article. Now that you may know something about Mr. Phillips and his qualifications for a work of this kind, let me tell you briefly who and what he is.]

He graduated in Allegheny College, Meadville, Pa., in 1890. He taught science in the New Brighton High School for two years. He then entered the post-graduate department of the University of Pennsylvania in 1901, holding University scholarships for 1902 and 1903. He was appointed Harrison Fellow in Zoology for 1903 and 1904. In 1902 he began his studies on the subject of parthenogenesis, and during his spare moments is still working on it. He has already finished some work on the compound eye, and at my request he will in later issues tell us something about these wonderful structures in insects.

I secured from Mr. Phillips a fine photogravure of von Siebold, and have had the same reproduced for our readers. In 1885 this remarkable man died, but his work is living after him.—Ed.]

The occurrence of parthenogenesis in the case of the honey-bee is familiar to most if not all bee-keepers; and the theory of Dzierzon is the basis of many of the most approved methods in practical apiculture. It is of interest to notice that the first case of parthenogenesis which was recorded, and the significance of which was fully realized, was that of the bee. Many other cases have since been observed, and many different manifestations of this same phenomenon have been recorded; but the honor of the first discovery is due to a bee-keeper, Dzierzon. It is the purpose of this paper to give a suggestion of the scope of our knowledge at the present time of this most interesting subject, and to bring before the readers of GLEANINGS a few facts concerning other animals, especially other insects, which will show the widespread occurrence of parthenogenesis. It was my privilege to

spend a few weeks at Medina, in the apiary of The A. I. Root Co., studying the parthenogenesis of the bee, and I esteem it a pleasure to record in GLEANINGS my appreciation of the never-failing kindness of all with whom I came in contact.

The word "parthenogenesis," in the sense in which it is now used, was first used by Prof. Carl Th. Ernst von Siebold, in his valuable work on the parthenogenesis of butterflies and bees (1856). Before that time no word had been coined to express the production of individuals from an unfertilized egg; and, in fact, very few persons believed that it was ever possible. V. Siebold should be given credit equal to that of Dzierzon for the theory of parthenogenesis, for it was only after the research of years, carried on by the German scientist, that any valuable and acceptable proof was put forward.

In the development of unfertilized eggs into adult animals, but three conditions are possible; and we find in the animal kingdom examples of each. These conditions are, 1, the production of males only; 2, the production of females only; 3, the production of both sexes alike. A variety of names have been given to these different cases by zoologists, but it will not aid in any way to fill up this article with a lot of words of Greek derivation. Let us now take up each of these cases briefly.

1. Very little need be said in this place concerning the production of males from unfertilized eggs, since that is the kind of parthenogenesis with which the readers of GLEANINGS are probably most familiar. Since Dzierzon first announced his discovery to the world, many persons have attempted to prove that drone eggs are fertilized in the case of eggs laid by a fertile queen; but so thoroughly has the theory been proven by von Siebold, recently by Prof. Weismann and his pupils, Paulck and Petrunkevitch, and by many others, that but little faith can be put in the observations and conclusions of Perez, Dickel, and others with like theories. We can safely assert that all drones are produced from unfertilized eggs, and all workers and queens from fertilized eggs, since all authentic scientific investigations assert the truth of the statement. The same is true for the males of many other insects, which, with the bee, are included in the group of social *Hymenoptera*. Wasps, hornets, and ants furnish examples of the same kind of parthenogenesis.

2. Examples of females produced from eggs which do not receive the male cell are found in certain small and rare butterflies. It is evident that this form of parthenogenesis gives to a rare species a much better chance of surviving, since it is never necessary for a male and female to meet. In the case of the bee, copulation is necessary for the production of the queen, the individual that has most to do with the propagation of the species; but in these cases copulation is never necessary.

3. The last class of parthenogenesis, that in which both males and females are produced without union of the two sexes, affords some of the most interesting facts in all natural science. Volumes could be written—in fact, volumes have been written—concerning the different ways in which animals having this power behave. The best known and most interesting cases which fall under this group are those of the plant-lice, *Aphides*, and water-fleas. The small wheel animalcules, or rotifers, so abundant in all pools of water, also show this phenomenon frequently. Let us now examine one of the plant-lice more carefully, as an example of this group of our classification. In the spring there hatches from an egg which has lived over winter a *wingless* female plant-louse, and no males are seen at this time of the year. This female soon produces numbers of young offspring which come from their mother in a living, active condition, and these, in turn, soon produce more winged or wingless individuals in the same way—a considerable number of generations appearing during the course of a single summer. Finally, when the unfavorable conditions of autumn come on, there appears a generation consisting of males and females. The individuals of this generation mate, and the females lay fertilized eggs which live over winter and begin the cycle again the following spring. In different kinds of plant-lice this cycle may be modified by the migration of the winged generation to some other species of plant, for each plant has its own kind of plant-louse, and then somewhere else in the cycle another winged generation will appear, and they will all return to the original kind of water-plant.

A cycle similar to this takes place in many of the little water-fleas, which can readily be seen if you dip up in a glass vessel some water from a stagnant pool. If you let this vessel of water stand for a day or two you may see collected on the sides little patches of what appears to be slime, but which on examination with a good lens turns out to be one of the most beautiful objects in all nature—a colony of rotifers. Many of these also have a cycle similar to that which has been so briefly described for the plant-lice.

Besides these cases, parthenogenesis has been described for a couple of beetles, for several flies, for some spiders, for the animals which cause liver-rot in sheep, and doubtfully for several other groups in the animal kingdom. It was also supposed a few years ago that it was not of uncommon occurrence among plants; but of late years it is disproven for most of the supposed cases, and to-day is held for but three plants. It is thus evident that parthenogenesis is of quite common occurrence in many groups of animals besides bees; in fact, the development of males only is probably characteristic of the least modified type of this strange ability.

Philadelphia, Pa.



Carl Theodor v. Szeboto



ANOTHER BEE-BRUSH.

There has been so much said in the journals relative to bee-brushes that I want to add just a few words. It seems to me that there has never been a first-class brush described; and it seems to me that, when we revert to a bunch of weeds, we are not making much advancement, aside from the untidiness of the apiary in having weeds growing so plentifully that we can grab up a handful at every hive. We can all buy the best bee-brush at any store for 10 cts.; and that is, just an ordinary whisk-broom. Tack a sheet of sandpaper on your workbench or on a board, and take hold of the handle of the whisk-broom with one hand, and with the other one press the end of the brush down flat on the sandpaper, and then pull it across it a few times, and you will have all the stiff points cut down so it will be pliable and soft, and no danger of mutilating the cappings. When brushing, hold the brush flat to the comb, or practically so; and if it gets daubed with honey, dip it in a dish of water, and it will be clean again, and the moistening makes it more pliable. I have one I have used for fifteen years, and it is good for as many more. I always wet it before beginning my day's work. ELIAS FOX.

Hillsboro, Wis., July 9, 1903.

[Your suggestions for making a good bee-brush are excellent. We have been trying the idea of "sandpapering" the broom in the manner you have described, and it works like a charm. The item is worth much to the bee-keepers of the country, and I hope every reader of this journal will see it and act accordingly.—ED.]

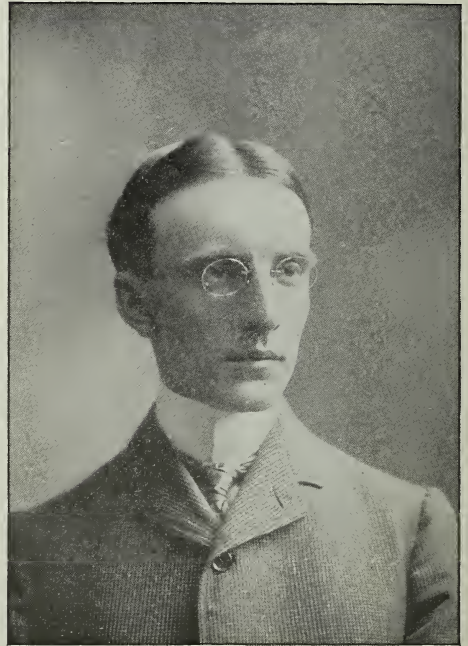
FEEDING BACK EXTRACTED HONEY.

Having never been situated to test this matter fully, I will not attempt to say that any plan can be invariably followed that will give satisfactory results; but in my feeding experiments under various conditions I have observed that bees will build comb more readily, and nearer the way comb is built when nectar is coming in, if not fed too rapidly, and from sources that are nearest approaching their gathering it from the flowers. If the bees are attracted to a feeding-box 100 yards or more from their hive, and the entrance to this feeding-box is contracted so that only so many bees can pass in and out as will convey the usual amount of honey gathered in a day to their hive, they will probably store this honey in boxes to the same advantage as though gathering it from the fields.

Again, the honey must be thinned to the consistency of nectar to have it reach the hive in condition normal to the industrial workings carried on therein. A weight of about 9 lbs. per gallon would come near the consistency of nectar from the flowers. The mixture of honey and water should be of equal temperature when united, or granulation will take place after it is stored in the combs, and seriously depreciate results. If mixed at a little higher temperature than honey gathered from the fields, there is no more liability to granulation than is experienced in the various qualities of honey as naturally brought in, provided the temperatures are equal when mixture is made. B. F. AVERILL.

Howardsville, Va., July 21.

[You have given us a couple of good suggestions, friend A. If it is a fact that fed-



E. F. PHILLIPS.

See article on *Parthenogenesis*, page 761.

back honey *can be* so fed or prepared that it will not granulate in the combs we shall have taken one important step forward. I should be glad to get reports from our subscribers who contemplate feeding back, as to the success of the plan here outlined.—ED.]

HOFFMAN AND OTHER SELF-SPACING (OR FOOL-PROOF) FRAMES.

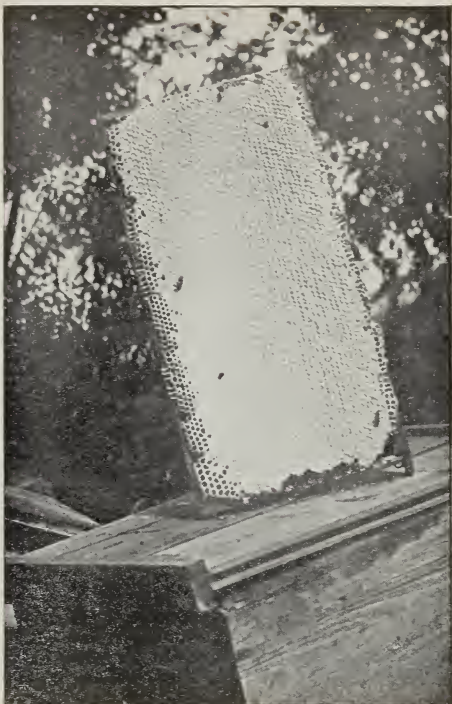
Now, this kick is from the other side. Dr. Miller says if none of the Cuban bee-keepers will use the Hoffman frame, why not

use the Miller staple-spaced frame? I believe the photo will make a few things clear. You see the comb is built out over the top-bar; and when you uncap you want to cut the comb down to the top-bar; and then the stoppers are very nice to sharpen the knife on. In Cuba the frames are spaced so that seven frames fill a ten-frame extracting-super. Here in Illinois I use six frames in an eight-frame super. The photo is of a frame so spaced.

The other photo is of some old coal-mine dumps. They are composed of the clay that is both over and under the coal-mine. Those dumps have stood gray, and bare of vegetation, for 25 years. Three years ago they were as bare of vegetable life as the day the last whistle was blown and the last cageful of men hoisted and the mine abandoned. Nothing would grow on them until sweet clover got a start, and it is making a rank growth. L. B.

[It is very apparent from the illustration that a metal or nail-spaced frame could not be used satisfactorily for extracting, providing the frames were spaced wider than $1\frac{3}{4}$ from center to center. I judge that you find no objection to the use of the Hoffman frame, for the projections are of wood, and can not, therefore, dull the edge of a keen uncapping-knife. Metal-spaced frames are very nice for comb-honey production; but they seem to be very, *very* objectionable for purposes of extracting. If we ever get the uncapping-machine, this objection will be overcome.

It is remarkable that sweet clover can be made to grow where nothing else will take root. I have seen it on the alkali lands of Colorado and California—lands where nothing could exist, except, perhaps, a kind of alkali weed that is absolutely useless to either man or beast; and yet we hear how sweet clover is regarded as a noxious weed by State legislatures and township trus-



WHY A MILLER STAPLE OR NAIL SPACED FRAME WON'T ANSWER FOR SOME BEE-KEEPERS.

tees. Even in this State, mayors are ordered to cut down along municipal road sides all weeds, including sweet clover, and yet there is nothing so good as a soil-binder for loose lands as sweet clover. I should not be surprised if it were worth millions of dollars to railroad companies to prevent the washing-away of embankments, for that is where it does best, on hard yellow clay or other soil where nothing else can grow and take root.

There are big dumps near Cleveland where refuse, cinders, and slag of every sort are thrown; but I have noticed how sweet clover seems to find its way along the edges of these dumps, and it seems to be creeping all over, making the waste land productive of at least some good.—Ed.]



SOME OLD COAL-MINE DUMPS THAT HAVE BEEN BARE WASTES FOR 25 YEARS, THAT ARE NOW RECLAIMED BY A RANK GROWTH OF SWEET CLOVER.

BEE-KEEPING IN OKLAHOMA.

I inclose photos of my apiaries here in Oklahoma—a place where it is said bees do no good; but, however, we have had bees here nine years, and expect to stay in the business for some time to come. This has been a hard season on us here. Bees built up



RESIDENCE AND APIARY OF F. W. VAN DE MARK, OKLAHOMA.

on fruit-bloom, and were in fine condition for the persimmon and early sumac; but a killing frost, April 30, killed the persimmon, and the sumac is just now (June 25) blooming. That, and the continual wet and cool weather gave us a "starvation time" here, and some bees, especially new swarms, starve or dwindled till their owners are saying that Oklahoma is no good. I fed my bees along, kept up their strength, and now they are just booming on sweet clover, while sumac, wood

sage, alfalfa, and black sumac, are just ready to bloom. My bees on scales are swarming again on 4 lbs. per day, and that is only an average one. People are preparing to sow a great deal of alfalfa here this fall, and on the bottom lands here it yields lots of honey when it is not cut too soon. That, cotton, and black sumac, are our main sources of honey, and will compare favorably with any.

F. W. VAN DE MARK.

Ripley, Oklahoma.



APIARY AND HONEY-HOUSE OF F. W. VAN DE MARK.

BEE-STINGS — ANOTHER RATIONAL METHOD OF TREATING THEM.

After reading Mr. D. A. McLean's "rational" remedy for bee-stings, and your reply (p. 588), I think your readers will be interested in a very simple and effective remedy which I have tested many times, and know to be good. As soon as possible after being stung, scrape out the sting and clap over the wound the bore of a common key (the old padlock kind), and press it down hard. After holding it for about a minute, remove the key and you will see a tiny drop of yellowish fluid over the wound. The pressure in some way extracts the poison, and that is the end of it.

I think the common-sense explanation of this remedy is that the flesh, being soft, rises up in the tube in the form of a half-sphere, or, in other words, ball-shaped, and so stretches the skin and opens the very small hole that the pressure forces out, or, rather, is able to force out the poison. However, this is what it does do, any way. Try it.

P. T. LEMASTER.

Spartanburg, S. C., July 23.

[Your method of treatment apparently confines the poison to a very small area, say of the circle of the keyhole. The pressure closes up the delicate blood-vessels, and the continued pressure doubtless forces the virus out through the exit by which it came. If it is a fact that you can force the poison out again, you will have reduced very much the consequent fever that would result.—ED.]

BEES STORING BELOW BROOD, ETC.

In your reply to my inquiry about placing brood over excluder to prevent swarming, you think bees would not ordinarily store below the brood. I tried a dozen colonies, and nearly all went below; but after reading Dr. Miller's experience in his "Forty Years" with the same plan, I abandoned it.

In the same book he speaks of shaking a colony and placing the brood over an excluder on the same hive. Do you think this would have no tendency to promote swarming on building of queen-cells?

In July, 1902, GLEANINGS you say that having a colony produce a queen of current year's rearing to prevent swarming is not practicable with many colonies. Why could we not unqueen at first settled weather, and then let them rear their own queens for the season? When forced swarms are likely to abscond, how long after forcing is it necessary to watch for them?

Kirkton, Ont.

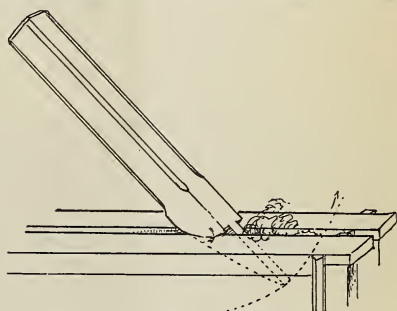
J. H. BURNS.

[Putting the brood over an excluder on the same hive might have a tendency to incite swarming; but I am rather of the opinion it would not have any effect one way or the other, and very possibly it would discourage it. While it is advisable to have young queens in the apiary it would be the height of folly, and a most serious

blunder, to unqueen at the beginning of settled warm weather in the spring. If there is any time in the whole year that is important to the growth and possible success of the colony in honey-production, it is in the early spring, when as much brood as possible should be reared in order to bring on bees of the right age for the honey harvest. No, no! if the colony is to be unqueened, do it either during the honey-flow or soon after.—ED.]

MACK'S BURR-COMB TOOL.

I send you by mail an instrument which I use to clean the wax from between the top-bars of brood-frames. It is a daisy for that purpose. I should like to have you put it in a can of water, and take it out to a hive that has wax between the top-bars. Put the point between the frames, and use



it as you would a can-opener; and if you do not smile to see the wax peel out in strips $\frac{1}{4}$ inch wide, and several inches long, and tumble over on the frames, I shall be surprised. I consider it very important, in making comb honey, to see that the spaces between the frames are kept open.

Bonsall, Cal.

J. M. MACK.

[We tried your little tool in our bee-yard, and it accomplished exactly what you say it will. It is something that any one can make for himself out of hard wood; but it is a question in my mind whether the accumulation of propolis or bits of wax along the edges of the top-bars does any particular harm. They serve no useful purpose, it is probably true.—ED.]

A COMPANY THAT WILL INSURE BEES.

In your footnote on page 688 you inquire of subscribers about insurance on bees. I have had my bees insured for many years, for \$2 on each colony, in the Tompkins County Co-operative Fire Insurance, New York. This company was organized quite a number of years ago with three counties, but has kept adding until it is a large company with perhaps 20 counties.

JOHN McKEON.

Dryden, N. Y., Aug. 2.

SOLITARY BEES — A RARE SPECIMEN.

For some time I have been watching bees—at least I suppose they are bees—working about two feet from one of my hives. They are about the size of a house-fly, and shiny glass-green all over. They are great pollen-gatherers; and as they are working from morning till night on flowers, I suppose they must also gather honey.

The other day the children were carrying water in bottles; and upon investigation I found they were drowning out bees. They claim to have received some stings; but whether stings or bites, I did not have time to investigate.

The children gathered a bottleful, and I send you some by mail. The specimens sent are twice the size of the bees (?) I have been watching, and have striped bodies, which bees have not, so I decided they must be drones or another kind of insect.

E. N. FRANCIS.

Uvalde, Texas, July 15, 1903.

[This was sent to Prof. Benton, who replies:]

Mr. Root:—I herewith return a letter from Dr. E. N. Francis. The specimens sent by him are known as *Agapostemon meliventris*, a rare and beautiful one of the solitary bees. These bees construct passages in the ground several inches in depth. They collect balls of pollen, which they moisten with honey, and in these they deposit their eggs. They are not known to be injurious, and they doubtless assist in the pollination of blossoms of various useful plants, thereby aiding seed and fruit production. I have taken the liberty of dropping a line to Dr. Francis, together with a frank, and have asked him to send us more perfect specimens, if he can obtain them, for our collection in the National Museum.

FRANK BENTON.

Washington, D. C., July 27, 1903.

POISONING SKUNKS AROUND BEES.

Mr. Root:—I will write you my experience with skunks as enemies of bees, as it may be of benefit to some other bee-keeper. I had noticed that some of my colonies that were light were not building up as fast as they ought to do, but could discover no reason for it until the evening of July 27. Being out near the hives after dark I heard a noise that at first I thought to be a cat scratching on something. The noise continuing, I went to investigate, and found two skunks working at the bees (just as described in the A B C of Bee Culture). I went and borrowed a gun, and succeeded in shooting a foot off from one (found the foot the next morning). As I was afraid to try the remedy mentioned in the A B C, on account of my neighbors' cats, I put some honey in a pan and put strychnine in it, set it out in the yard among the hives after dusk, and brought it in at daylight. The first night I saw one go to the pan. It did not stay long, and did not get far away until it let it be known that it was not feeling

very well. The next night, July 29, I put the pan out again. The next morning there were three half-grown skunks found scattered around the neighborhood. The 30th I put the pan out, but no skunks seen, but a strong smell. The 31st, or last night, I put the pan out. This morning there was one found, and trails leading in several directions that were very strongly scented.

It is very evident now that I have lost a good many bees this summer by skunks. If others would keep closer watch, may be they would find the same state of affairs.

J. I. WHITING.

Bolivar, N. Y., Aug. 1.

SERVICEABLE CHEAP BEE-GLOVES.

In reference to your request for some suggestions about gloves, I send you the following: The first few years I had bees I attempted to handle them without gloves; but after being severely punished I decided that discretion is the better part of valor, and I applied to Mr. Selser for a pair of the gloves you advertised; but as the largest pair was too small for me I had to try something else. In one of our large department stores I purchased a pair of laborers' gloves. These are made all in one size (large), of inferior leather, but they are bee-proof. To these I had my wife attach the sleeves of an old white shirt, and intended to put rubber in the upper part to keep them in place. I had occasion to use them before being finished, and found the rubber superfluous. The sleeves being full prevented the bees from reaching, even when they attempted to sting. I have used this arrangement all summer with greatest satisfaction.

J. J. LEITENBERGER.

Ridley Park, Pa.

A. I. ROOT AND HIS CUBAN LETTERS.

Mr. A. I. Root:—I have been very much interested in your letters from Cuba. I understand Spanish. I spent some time in a missionary venture in Colombia, South America. Your letters brought back many scenes and events. They are wonderfully true to nature. If you want to see something worth while, just extend your trip next winter to Barranquilla; to Cartagena, the "Great Unwashed," or to Santa Marta, at the foot of the Sierras. Here take a mule (no bicycle in mountain work), and go up to the coffee-plantations. Wm. Crane's place, Agua Dulce, is 2500 ft. up, 17 miles from the sea. He is a Vermont Yankee, and has spent 25 years in that country. Mr. Marshall's place, Bella Vista, is about 3500 ft. up, and you can go up to 7000 feet in a little more than a day—all over good (?) paths, and in sight of the sea. Some of the finest scenery on earth is going to waste here. Just wait until some capitalist finds it; then there will be a great winter resort. It is but a glance from the tropics to the poles; from the great banana-plantations of Rio Frio, the finest on earth, to the eternal snows of the Sierras,

17,000 feet up. The climate is fine, varies between 60 and 80 F. all the year. In sight is the great Magdalena River, a great plain, a swamp, a desert, several lakes, and the ocean. Back to the east is range after range of mountains to the Venezuela border, all unexplored and uninhabited. At one time they supported a dense population of Indians, as is shown by miles of stone-paved paths and dozens of village sites.

The largest trees grow where the villages once stood. What has become of the natives, no one knows. All this and far more is in easy reach of New York. The banana-boats go regularly.

The bees of that country are a study. There is a big one; the common stingless bee, and a little one that much resembles *Apis florea*, as I remember. But I was not so much interested in bees then as now. It seems to me coffee would be a good bee-plant. It blooms in profusion, and twice annually, and there are hundreds of acres of it. They raise some alfalfa near Santa Marta.

WILL SIMPSON.

Farmington, Ill., July 21.

IS IT FOUL BROOD OR A NEW DISEASE?

Your comment to my communication, page 683, has been well taken by the Muncy Valley Bee-keepers' Association. The Association held a meeting Saturday, Aug. 1, when GLEANINGS was handed to the secretary, with a request that he read the communication to the Association. After reading it a move was promptly made and carried that we seek State aid in fighting the disease. An effort will now be made to get all the names of bee-keepers of the State, and call a meeting next winter at Williamsport, or some other place near the center of the State, and proceed to ask for legislation for stamping out foul brood and all contagious bee-diseases.

As our legislature does not meet till the winter of 1894 we have plenty of time to work up the matter. Of course, our local organization will continue to fight the disease as heretofore.

I had a pleasant call from Mr. Harry Beaver, who has been in Cuba working for W. L. Coggeshall, and mentioned by Rambler in his Cuban writings. He says that our disease is not foul brood or black brood, as he has had experience with both diseases in New York and Cuba. He says it is something that he never saw before, and, in fact, that is my experience, as I had real foul brood in my yard about eight years ago, and I would rather have five colonies affected with foul brood than one with this disease. It spreads very rapidly, and will almost entirely depopulate a colony in about a month or six weeks. It does not attack sealed brood, but is confined to unsealed brood and adult bees. The larva does not become ropy or brown, but remains white in most cases, and just shrivels up in the side of the cell, and in badly affected colo-

nies it has a 'very putrid smell, not at all like foul brood. The treatment recommended for foul brood does not seem to have much effect on this disease.

Gomly, Pa., Aug. 4. O. C. FULLER.

THE WHITE-CLOVER FLOW IN NEW YORK.

The past white-clover honey-flow has been uncommonly good; but owing to the many cold rainy days during June, just when the flow was at its height, bees had not the chance to improve the opportunity. Days at a time it was so cold that bees hardly left their hives, and consequently the crop gathered is not overly heavy; but the quality, both extracted and in the comb, is good.

I have run the solar wax-extractor with lamp attachment during the past hot days. It turns out wax on a "run."

G. C. GREINER.

La Salle, N. Y., July 16.

BARK OF THE SHAG-BARK HICKORY FOR SMOKER FUEL.

Let me say, for the benefit of the brotherhood, that by far the most satisfactory smoker fuel I have ever tried is the bark of the shag-bark hickory, such as is partly loose, and may be pulled off in strips. It is very durable, gives plenty of smoke, and absolutely no sooty drip. Kindle with dry decayed wood; and when once it is well lighted it never goes out.

Lapeer, Mich.

R. L. TAYLOR.

THE SEASON NOT WHOLLY A FAILURE IN AND AROUND IDAHO FALLS.

The season, till within the last month, has been very unfavorable for the bees. We have lost about four-fifths of them in Bingham and Fremont Counties, and hence we are cut short in the honey crop. There will probably be about 50,000 lbs. of honey raised in the two counties. Prices will, therefore, be somewhat higher.

WM. W. SELCK.

Idaho Falls, Ida., July 8.

HONEY CROP IN WESTERN IDAHO.

I can't understand those bees dying in Eastern Idaho—nothing like it here. Crop indications are the best in some years. There will be about two cars of comb and one of extracted in this part and Eastern Oregon, of which local demand will use one car. Prices are the same as last year.

Parma, Idaho.

F. R. FOUCH.

Do skunks catch bees? There is something that works around the hives at night.

McLean, N. Y.

W. HOAGLIN.

[You will see by the ABC book that skunks are mentioned among the enemies of bees. But their depredations are only slight, and usually a trap will soon finish up their visitations. See previous page.—ED.]



CONTINUED FROM LAST ISSUE.

St. Louis, Mich., near Alma, is a wonderful place, or it has been. Some 25 or 30 years ago its reputation was almost worldwide for its medical springs or wells for the cure of many diseases. I think they called them the magnetic springs, and it was claimed that the water was so strongly charged with magnetism that it would magnetize knives, scissors, etc. If I am correct, these knives and scissors received their magnetism by touching the iron pipe where the water runs out; and any iron pipe driven into the ground possesses this property. Never mind. St. Louis is a thrifty place with its wonderful water-power. We were very pleasantly entertained by Mr. J. N. Harris, who has several hundred colonies of bees in various outapiaries.

From St. Louis we had a very nice road through Mt. Pleasant and on up to Clare, in Clare Co. At Clare it began to look very much as though we were getting out into the wilderness. Sandy plains took the place of good roads; and in order to get through from Clare to Farwell we had to pass through a piece of woods where there were seven gates to open and shut. You may remember I described this state of affairs in Cuba. The land was owned by people who possessed immense farms, and the fence was only around the outside. The traveling public were obliged to open and close the gates or else build fences each side of the road to keep in the stock; and this sandy road twisted around between the trees in a way that seemed as though we should never get anywhere in a straight line. The auto, however, did splendidly, and even made pretty fair speed. At one point, in consequence of some improvement the road was shut up by a field, and we were compelled to go around the field through the woods where almost no vehicle had ever passed; but we made it all right, and got out of the woods. When we arrived at Farwell we were rewarded for our trouble with sandy roads by meeting Mr. T. F. Bingham, the man of smoker fame. Mr. B. is a watchmaker and jeweler, and I believe he still works at his trade more or less. We might expect from this that he would be a careful man and a fine mechanic. His smoker-factory is in the back part of his jewelry store, and he has some very nice machinery for making the celebrated Bingham smokers. Besides this he has a very pretty home, and, I think I may say, one of the finest apiaries in Michigan or any other State. His exceedingly nice and convenient cellar for wintering bees has already been pictured and described in this journal; but the Bingham hive, as he uses

it now, deserves more than a passing notice. I believe he has changed the dimensions of his frame from what they were years ago. It is not as shallow as it used to be. The hive is made up of the frames like the Quinby hive and many others of that class; but I think friend Bingham is the man who first originated a hive made up of frames having no outer case. All the others are copies of his idea. Very likely some of the makers did not know of Bingham's hive at the time. The frames are close-fitting end-bars. The first and last frame have a cleated panel to close up the hive. A nail is driven into each of these panels, with the head projecting; then a wire loop something like the letter O is hooked over these nail-heads. To squeeze the frames up together, and make it so it can be handled like a solid hive, a stick of the proper length is put into this wire loop, spreading the sides, making the O in the shape of a diamond. This is all there is to it. These light simple hives are placed one over another; and as friend Bingham doesn't take off his honey till the season is over, he has them piled up, not only three or four high, but sometimes five or six. If you want a sample of the Bingham hive, all you need is one frame and one of the outside panels. Just make more like your sample, and you can pile up hives as fast as you wish, with the wire loops to hold them together. As he makes and uses them, the idea is exceedingly fascinating. It is simplicity itself. Of course, you can use any kind of bottom-board you choose. I did not look particularly in regard to the entrance; but to have the hives made of perfect frames, without any cutting, I would suggest that the entrance be made in the bottom-board. The cover, I think, is simply a cleated board. It projects a little all around the hive, if I am right; and he has a novel idea of shading the hive from the direct sun by attaching a sort of night-gown or mother Hubbard to those projecting covers. His arrangements for comb honey are not particularly different from others in use, except that he has one of the cutest observation glasses I ever saw. One side of the section-case, or super, contains a strip of glass ordinarily concealed from view; but a little door running the whole length of the end-board opens out very easily, and shows you when the bees are at work in the sections. The hinge to this little door is made by driving a slender nail clear down through the door, and all near one corner of the super. Ernest says there is an illustration of this hive in the A B C that shows it very well. I should also like one of the covers with the "night-gown" attached.

Friend Bingham and his good wife almost insisted that we should stay over night, and not go further that day. When we assured him that we couldn't possibly spare the time, he declared we *must* visit the Wilkins sisters. Our older readers will remember the papers that made such a stir

in the bee-keeping world years ago, emanating from "Our Clearing," somewhere in the woods of Northern Michigan. The author, Cyula Linswik, remained for a long time unknown to the public except by name. Well, this writer proved to be Miss Lucy A. Wilkins, of Farwell, Clare Co., Mich. Her *nom de plume* was simply made up of the letters in her true name, transposed. Our older readers will remember that I made a visit to said clearing, and wrote up my visit something like 18 years ago. Well, friend Bingham said if I would not stay with him over night we must visit Miss Lettie and Miss Lucy Wilkins, for they are still bee-keepers to some extent. I can't tell you all about our pleasant visit there. The clearing in the woods has, during these years, given place to a beautiful home in the midst of the cleared fields; but the old cottage home that stood in the woods is standing still. It has so much rustic beauty about it that W. Z. Hutchinson recently photographed it and used it for an article to illustrate bee culture in *Country Life in America*. But the article did not tell where the vine-clad cottage, with its bee-hives near, was to be found. Close by said cottage we found Huber and Miss Lettie sampling some of the finest Loudon raspberries I ever saw. When I had eaten so many that I was afraid to eat any more, Miss Lettie offered me another great handful, remarking, laughingly, as she did so, "Why, Mr. Root, you know they won't hurt you if you just *think* they won't." T. B. Terry may have more listeners to what he says about health than he thinks. There is a beautiful driveway leading from the big gate up to the Wilkins home that is quite a contrast to the sand roads around Farwell; and Huber took the sisters up this road and around the large white house on the grassy lawn, with the automobile. Through this region, where the roads are not made passable with either clay or gravel, or both, it is pretty hard getting through the sand in dry weather. If the good people of Farwell should want to go to church with an automobile they might get somewhere near the church, but they would have a very hard task in getting right up to the door unless they should first do something with the sand.

Mr. P. H. Orth, of Sears, Mich., has a very pretty place and a lot of nice children; and, by the way, I was again and again astonished to find such beautiful farms and farm homes all along, even in the northern part of the State, where I had been led to suppose there were only barren pines. Osceola Co., for instance, has some very pretty country places and country roads.

At Evart we had a very nice visit with Mr. Oliver Rhone. His father treated us to ripe strawberries during the last of July. He said he thought they were the Gandy, but he could not be quite sure.

About six miles north of Evart there is a flowing well that throws a volume of water still larger and with greater force than the

one mentioned at Mr. Boyden's. Although it would furnish power enough to generate an electric current of considerable value, nothing seems to be doing about it.

Our last stopping-place before running into Traverse City was with Mr. F. B. Cavanagh. The Cavanaghs have a beautiful farm, with enough out-buildings to make it seem almost like a little town, and with a large farm all around them. Although the bee-keeper is a boy of only 22, he already counts his colonies by the hundreds, and has two out-apiaries.

The road to Traverse City was very much better than I anticipated; and the view of Traverse Bay from the hills five or six miles south of the city is one of the finest I ever saw in any land. In fact, I don't know but it equals the celebrated Yumuri Valley described by Humboldt. This road into Traverse City is also very fine. Numerous springs pour their liquid treasures into watering-troughs by the wayside. Oh how I do love to see these watering-places for man and beast! and I love to hear the babbling brooks, and drink of the beautiful soft water in these sandy hills. There may be other water and other springs like those around Grand Traverse Bay, but I am afraid I haven't found them.



They said in their heart, Let us destroy them together: they have burned up all the synagogues of God in the land. . . . O God, how long shall the adversary reproach? shall the enemy blaspheme thy name for ever?—PSALM 74: 8, 10.

In our recent trip through Michigan I was not only interested in studying the financial prosperity of the country and the country towns, but I was noting with great interest the spirituality of the different towns through which we passed, and especially where we made any sort of stop. I have already mentioned the excellent sermons we listened to on the Sabbath in two of the country towns. The audiences were larger than I expected to see, and the sermons were far above what I expected to hear in such very small towns. We spent one Sabbath, however, in a place where the sentiment of the verses I have chosen as a text was brought vividly to mind. The town contained perhaps three or four hundred inhabitants. There were two hotels, two drygoods stores, two hardware stores, one drugstore, etc., and all seemed to be doing a good business. There were rich farming lands around the town, and large potato-warehouses near the depot for storing the crops of potatoes. There was only one church in the place; and this one church, if the people could be united, and would attend, would be enough. I found on inquiry, however, that the church and every thing

pertaining to it was getting to be run down and deserted. The young pastor told me there used to be thirty or forty members; but now there are not more than half a dozen, and these were all women. At the time of our visit he had succeeded in raising money enough to paint the church, and the painter had got the job half done. He had got as high as a short ladder would reach. At this point he plead poverty so effectually, and the need of the money, that the kind-hearted pastor paid him in full for the job, and right at this point the work stopped. The ladders had been leaning against the church for three weeks. But the painter was off somewhere else. I am really afraid the money advanced him, at least some of it, had gone into the flourishing saloon instead of going to his needy wife and family.

The Sunday-school at half-past ten contained perhaps two dozen people, young and old. The services Sunday evening drew a fair-sized audience for such a community. I think I helped to make the audience a little larger than usual by urging the people around town to go to church.

The young minister did not preach; but we had a very good sermon from an old grey-headed veteran. It was much too long, however, and with the communion service we were kept in church a plump two hours. Not only did the audience yawn, but the young minister in his chair behind the aged pastor yawned again and again. I thought I discovered right there one reason why so few people attend church. Monday morning I talked with the pastor about it. Said I, "Surely you have one or more business men in this town who are members of your church?"

"Mr. Root, there is not only not a business man who belongs to *our* church, but there is not a man in business in the whole length of the street who *ever* goes to church at all; and there is not a male member of our church, young or old."

Saturday afternoon I happened to be in one of the hardware stores making a purchase when the church-bell rang. Somebody said it must be a fire. A lot of boys ran out to see where the fire was, and finally the proprietor followed. When I asked where there was a fire, somebody said he guessed the church was on fire, for the church-bell was ringing. After a while the crowd turned back because they learned that it was only a Saturday-afternoon meeting. It was such an unusual thing to have a church meeting during the week the people would have it that it was a fire-bell.

Let me say to the credit of the town, and to the credit of the man, that the busy agent at the railroad depot had recently been installed superintendent of the Sunday-school. When I first came into town I was favorably impressed with the man's appearance. He seemed quiet, faithful, courteous, and accommodating. In fact, he behaved like a Christian, which is something that *all* de-

pot agents do not do. I had quite a little talk with him. His good wife was one of the half-dozen that made up that scanty church-membership. Said I, "Mr. C., I congratulate you, the railroad company you represent, and the people of the town, on the fact that you are superintendent of the Sunday-school. But I wish to ask also why you are not a member of the little struggling band of church-members."

He smiled as he replied, with a shade of sadness in his voice, "Mr. Root, I have often thought of this, and I should like to be enrolled as a member of the church; but how would it look, and what would people say, to see a church-member working at least a great part of every Sunday, as I am obliged to work, to take care of the necessary Sunday duties of my office?"

Now, my reply may not have been strictly orthodox. Perhaps the ministers of the gospel who read this may not agree with me, or may think I erred in judgment. I told him to go straight forward in the path of duty as nearly as he could, and pay no attention to what people might say, and especially to listen to no suggestions of Satan in regard to the matter. Said I, "Perform all necessary duties on Sunday, well and faithfully. Ask your company to excuse you as much as possible from Sunday work. Tell them you are a church member, but that you expect to do necessary Sunday work, exactly as the farmer milks his cows and feeds his stock on Sunday; then stand by your colors, and serve the Lord Jesus Christ as well as you know how, and God will bless and prosper you. Your company will think more of you, and you may be assured they will not let you go if they can help it. Mr. C., will you please tell me how long you have been station agent here for this railroad company?"

His reply came with a modest little smile, "I have been here at this station just about twenty-three years."

A little inquiry revealed the fact that he had been a little *more* than that length of time, I think I may safely say, a faithful servant to the company he represented. I went on:

"My good friend, this is a drinking town. The greater part of the population patronize the saloons. Of course, you do not. Do you know how much the railroad companies value a man, when they get hold of him, who never goes near a saloon? And you know, too, what stringent rules almost all the railway companies are making in regard to this matter of intemperance and saloons."

We were detained two or three days in the town as a matter of business. While we were there, a new saloon was opened. To celebrate the event, the proprietor treated the town. So many tipsy men came around our machine where we had it in pieces making repairs that Huber expressed a fear it would be damaged in spite of us. A big man leaned heavily on a portion of the frame that was unsupported. I expect-

ed it to go down with a crash; but I could not get through his dull perceptions the damage he might do us. Huber took the job out of my hands. Said he, "Look here, boys, there are four gallons of gasoline in this machine, and it would be nothing strange at all if your cigars were to set fire to it and blow us all up."

The sleepy crowd caught on to the word "gasoline," and piled out pellmell, and we did not have any more trouble for some time.

You may, perhaps, recollect that the little town of Bingham, near our cabin, is something in the same predicament; and I fear there may be a good many other towns, not only in Michigan, but in Ohio and other States, where the church, Sunday-school, and every thing else, are getting away in the background. I was told they used to have a flourishing Epworth League, but it has gone to pieces. They also once had a temperance organization, and even built a temperance hall, but it is now used for other purposes, and everybody drinks beer—many of the women as well as men. When I exhorted the crowds on the street to come to church or Sunday-school they laughed at me. May be they thought I was behind the times. Well, perhaps I am and was; but I think they will, sooner or later, be compelled to admit that "godliness is profitable," and also that "righteousness exalteth a nation."

What is the trouble? I think there are several reasons for this state of affairs. I did not hear the young pastor preach. He is a good man, but I fear he has become discouraged, and is a little afraid to denounce the Devil in his stronghold in plain terms. This young minister preaches in four different places, and very likely at a meager salary; and it would be nothing strange at all if he has trouble in collecting even that. The town of which I speak should alone pay him a fair salary, and one that would permit him to spend all his time in looking after the spiritual interests of his people. The church is old and dilapidated. This would follow as a matter of consequence. It needs fixing up. It needs to be made attractive; and these people need—at least I think they do—short, sharp, crisp sermons that take hold of the affairs of the present day. They want sermons that strike blows at the wickedness in the very town in which the people live. They need an organization to enforce the laws against the saloons. The spirit of temperance needs waking up. I think I heard somebody say, when this new saloon was opened, there was a little bit of fight about it, but the "wets" predominated, and then celebrated the event. Of course, the free drinks helped them to crow over the way in which they had whipped and downed the "pious" element. What will be the effect on that town? What will be the result on the young men—yes, and on the girls too?

Huber was inclined to be a little rude toward some of the young women who seemed

bound to get acquainted. When I remonstrated he replied that he had no patience with forward girls. But I replied, "Huber! Jesus died for fast girls as well as for fast boys. We are not called on to die for them as he did, for he gave up his life on the cross. But we *are* called on, as followers of Christ Jesus to be kind and civil to them, and to do all they can to lead them into better ways."

In another town there was a great stampede of boys and girls and everybody else to the circus. Huber suggested that perhaps I was too severe on circuses—that they are not really the worst things in the world. I replied, "Huber, you may be partly in the right; but, notwithstanding, circuses have more to do with the manufacture of fast girls than almost any other one thing in our land. They set the example, and then they urge the boys and girls to come on and follow them, by every means that modern invention can bring to bear. May God help us."

Now, friends, I wish I could show you a picture of some of the pure bright clean Michigan towns—the towns with beautiful homes, turfy green lawns and cement pavements that outshine any other in the world—towns with schools and churches, able ministers, and bright and intelligent congregations. I should like to show you some of these towns—and thank God there are hundreds of them—and then show by contrast the towns I have been describing in this home paper.

Dear reader, you may not live in Michigan; but what kind of town *do* you live in—a clean town with clean men and women, or do you live in a town where saloons are rampant? where the wets carry the day every time an election is held? where they celebrate their victory with free drinks? where they celebrate the *privilege* they enjoy of leading pure boys and girls down to ruin and shame? It rests with *you*, father and mother, brother and sister. "O God, how long shall the adversary reproach? shall the enemy blaspheme thy name for ever?" As a natural consequence, this town which I have been describing is full of blaspheming men and boys. I will say to their credit they were civil, pleasant, and good-natured; but when they spoke in even the most common conversation, foul inappropriate oaths rolled out of their mouths. They seemed to delight in shocking a stranger; or, to put it a little differently, they seemed to delight in giving a stranger to understand that they were not tied down to any pious order.

Again and again I think of that long sermon—a very good sermon it was, mind you—but there was too much of it; and it had too much theology in it. It was not on a theme that touched the events of the day and interested and got hold of the girls and boys. It made me think of the time when I had no interest in nor sympathy for sermons I listened to. It may be we Christian people are greatly at fault. It may be that at

least some of us are in the old ruts. If so, may God help us to get out of them. May he help us to make it clear to these younger ones that our work is as sensible and as important as building locomotives, putting up telephone-wires, selling goods, and raising crops. I know our people, the Christian part of them (at least I think I know it), will gladly enlist in works of righteousness rather than in works of iniquity when they can see and be made to understand just where these things are coming out; when they can be made to see that we are all sowing seeds of some kind. Shall we busy ourselves in sowing seeds of docks and thistles when we might as well be sowing seeds that will produce crops of golden grain, sheaves fit for the Master?

Let me close by saying once more, in the language of our text, "O God, how long shall the adversary reproach? shall the enemy blaspheme thy name for ever?"

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Having added extensively to our queen-rearing plants in the North and the South we can furnish any number of queens on short notice.

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One untested queen, 75c; 6 for \$3.90; 12 for \$6. Tested, \$1.25. Best breeder, \$2.50. Best imported breeder, \$4. For full colonies, one or two frame nuclei, large orders for queens, send for descriptive price list. Orders received now will be filled when desired.

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The best for the least money, direct from the breeder. Untested, 55 cts. each; 6 for \$3.25; 12 for \$6.45. Tested, \$1.00 each. Breeders, \$3.00 each.

My bees are not excelled by any. Have 700 nuclei. Sent by return mail. This is a postal money-order office. Mention Gleanings when ordering.

DANIEL WURTH,
Karnes City, Karnes Co., Texas.

Red Clover and Three and Five Banded Queens.

Untested, 75 cts.; \$7 per doz. Fine tested queens, \$1.00 each. Remember we guarantee our queens to work red clover as well as white clover. Get my circular. Queens go by return mail. Fifty and one hundred, special prices.

G. ROUTZAHN, BIGLERVILLE, ROUTE 3, PENN.

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and want your order filled at once with the best queens that money can buy, we can serve you and guarantee satisfaction. We have a fine strain of Italians that can not be excelled as honey-gatherers. We can furnish queens from either imported or home-bred mothers. Choice tested, \$1.00 each. Untested, 75c; \$3.00 per doz.

J. W. K. Shaw & Co., Loreauville, La.

Long Tongues Valuable South as well as North.

How Moore's strain of Italians roll in honey down in Texas.

Hutto, Tex., Nov. 19, 1902.

J. P. Moore.—Dear Sir:—I wish to write you in regard to queens purchased of you. I could have written sooner, but I wanted to test them thoroughly and see if they had those remarkable qualities of a three-banded Italian bee. I must confess to you I am more surprised every day as I watch them. They simply "roll the honey in." It seems that they get honey where others are idle or trying to rob; and for gentleness of handling, I have never seen the like. Friend E. R. Root was right when he said your bees have the longest tongues; for they get honey where others fail. I will express my thanks for such queens. I am more than pleased. I will stock my out-apiaries next spring with your queens. Yours truly,

HENRY SCHMIDT.

The above is pretty strong evidence that red clover is not the only plant which requires long tongued bees to secure the greatest quantity of nectar.

Daughters of my 23-100 breeder, the prize-winner, and other choice breeders: Untested, 75c each; six, \$1.00; dozen, \$7.50. Select untested, \$1.00 each; six, \$5; dozen, \$30.00. Safe arrival and satisfaction guaranteed. Circular free. I am now filling orders by return mail, and shall probably be able to do so till the close of the season.

J. P. Moore, L. Box 1, Morgan, Kentucky.

Pendleton County.

Laws' Leather-colored Queens. Laws' Improved Golden Queens. Laws' Holy Land Queens.

W. H. Laws:—Your queens have proved to be excellent. My apiary stocked with your *Leather* queens is a sight to behold during a honey-flow, and the *Goldens* are beyond description in the line of beauty. Yours are the best for comb honey I ever saw. I want more this spring.—*E. A. Ribble, Roxton, Tex., Feb. 19, 1903.*

W. H. Laws:—The 75 queens (*Leather*) from you are dandies. I introduced one into a weak nucleus in May, and in September I took 285 lbs. of honey, leaving 48 lbs for winter. My crop of honey last season was 48,000 lbs. I write you for prices on 50 nuclei and 150 *Leather* queens.—*Joseph Farnsworth, Idaho Falls, Idaho, Feb. 16, 1903.*

Prices of Queens: Each, \$1.00; 12, \$10.00. Breeders, extra fine, guaranteed, each \$3.00. Send for price list.

W. H. Laws, Beeville, Texas.

The Best Honey Queens ON RECORD

Are those reared by The BEE & HONEY CO., Will Atchley, Manager. We breed six distinct races in their purity, from 6 to 35 miles apart, queens ready to go now. We make a specialty of one, two, and three frame nuclei and queens in large lots. Write for prices, they will astonish you. Untested queens of either race, 75c each; \$1.25 for six; \$5.00 per dozen. Tested, \$1.50 to \$3.00 each. Breeders, the best that money can buy, \$5.00 each. We guarantee safe arrival and perfect satisfaction. Address all orders to

The BEE & HONEY CO.,
Beeville, Box 79. Bee Co., Tex.



End of the Season Problems

are discussed by such men as R. L. Taylor, H. R. Boardman, M. A. Gill and Jas. A. Green, in the July and August issues of the Bee-Keepers' Review.

Send ten cents for these two issues, and

another different issue will be sent with them, and the ten cents may apply on any subscription sent in during the year. A coupon will be sent entitling the holder to the Review one year for **only 90 cts.**

W. Z. Hutchinson, = Flint, Mich.

QUEENS Golden Italian & Leather Colored

Warranted to give satisfaction, those are the kind reared by **Quirin-the-Queen-Breeder**. We guarantee every queen sent out to please you, or it may be returned inside of 60 days and another will be sent "gratis". Our business was established in 1888, our stock originated from the best and highest-priced **Long-tongued Red-clover Breeders in the U. S.** We send out fine queens, and send them promptly. We guarantee safe delivery to any State, continental island, or European Country.

The A. I. Root Co. tells us that our stock is extra fine, while the editor of the *American Bee Journal* says that he has good reports from our stock, from time to time. Dr. J. L. Gandy, of Humboldt, Nebr., says that he secured over 400 pounds of honey (mostly comb), from single colonies containing our queens.

A FEW TESTIMONIALS.

P. F. Meritt, of No. 13 Breckenridge St., Lexington, Ky., writes: The bees sent me last July did splendidly. Each colony has at least 75 lbs. of honey—pretty good for two-frame nuclei.

Mr. J. Roorda, of Demotte, Ind., writes: Send me six more queens, the 48 sent me last spring are hustlers.

Mr. Wm. Smiley, of Glasgow, Pa., writes: Your bees beat all the rest, now send me a breeder of the same kind.

A. Norton, Monterey, Calif., writes: Your stock excels the strain of Mr. —, which is said to outstrip all others. Your stock excels in profitable results as well as in beauty.

Price of Queens After July First.

	1	6	12
Selected	\$.75	\$4 .00	\$7 .00
Tested	1 .00	5 .00	9 .00
Select Tested.....	1 .50	8 .00	
Extra Selected Tested—the best that money can buy.....	3 .00		
Two-frame Nuclei, no Queen.....	2 .00		

Add the price of whatever queen is wanted to that of nuclei. Our nuclei build up fast, and if not purchased too late will make some surplus.

Queen-rearing is our specialty; we give it our undivided attention, and rear as many queens (perhaps more) as any breeder in the North. No order is too large for us, as we keep 300 to 500 on hand ready to mail. Send all orders to

Quirin-the-Queen-Breeder, Parkertown, OHIO.

Ho! Bee-keepers! Attention!

We are again rearing the best of queens for market. We have 1000 colonies of bees, the best stock, and 10 years' experience. We have either Golden Italians or three banders. Price, 75 cts. each; \$1.25 for 6; \$8.00 for 12; tested, \$1.50. Safe arrival and satisfaction. Give us a trial. All orders filled promptly.

TEXAS BEE-KEEPERS

We keep a large stock of honey-cans of all sizes ready for prompt shipments. Get our prices. We also want all the section and bulk comb honey that we can buy, and will take some No. 1 extracted. We pay spot cash. Write us.

The Hyde Bee Company, Floresville, Texas.
(Successors to O. P. Hyde & Son.)

ADEL QUEENS.

Hard Record to Beat.

My father bought an Adel queen in 1902. Her colony and swarm from it filled twelve 2½-lb. supers this year, 1903. *I am ready to back up this statement:*

Roy KOZAK, Maquoka, Iowa.

I got 210 lbs. honey from one Adel colony. Another Adel colony has filled 8 supers and I expect 2 more supers this season from them.

C. J. OLDENBURG, Bell Plain, Mich.

One tested queen, \$1.00. Selected tested breeding queen and my new book on queen-rearing, \$1.50.

I have had 40 years' experience in queen-rearing.

HENRY ALLEY, Wenham, Mass.

..Very Satisfactory..

The four dozen queens I got of you last year are very satisfactory, being good honey-gatherers, and gentle, and finely marked.

CHAS. STEWART,

Sammons ville, N. Y.

June 19, 1903.

State Bee Inspector, 3rd Div.

To induce a trial we offer WARRANTED queens at 75c, six for \$3.50; fine select, \$1.00, six for \$4.50. Queens sent promptly; satisfaction guaranteed. Hybrids or poor queens replaced free.

J. B. CASE, Port Orange, Fla.

ITALIAN BEES FOR SALE!

Full colonies, \$4.00; three frames with queen, \$2.25; two frames with queen \$2.00; one frame, \$1.50; queen, \$1.00.

Mrs. A. A. Simpson, Swarts, Pa.

100 = Mounted = Queen-cells

and one sample of the Stanley Cell-protector or Introducing-cage, for 70 cents postpaid.

Arthur Stanley, Dixon, Illinois.

CARTONS FOR HONEY

Wanting to introduce the best, most practical, lowest-price carton for honey, all things considered; costs nothing. We have wholesaled honey in this city for 30 years. We have seen no honey-carton equal to this. Send us five two-cent stamps, and we will send you sample, together with explanation, and some practical suggestions regarding marketing honey to best advantage; also live poultry. We originated and introduced the now popular one-pound section.

Established in 1870.

H. R. WRIGHT,

Wholesale commission.

Albany, N. Y.

FOR SALE--Having land of good quality on north coast of this island, I want to sell it (7000 acres), in parcels or all together. Land to be sold from \$5 to \$8 per acre. I want a married couple to start bee-keeping and fruit-raising on half shares. I give them all that they need to begin with.

J. MCCREIGHT THAIN,
Sagua la Grande, Cuba.

Root's Goods in Central Michigan!

Sold at their prices. Present given with each order amounting to \$2 or over. List sent free.

W. D. Soper, Rural Route No. 3, Jackson Michigan.



PAGE WOVEN FENCE

holds the whole litter. It's closer woven.

Page Woven Wire Fence Co., Box S, Adrian, Michigan.

DON'T FREEZE, but come to Florida, the land of sunshine, and buy a home among the orange groves and bees. It doesn't take a fortune to do so. Write for particulars.

M. W. Shepard,
Hollister, Fla.

Cuba.

If you are interested in Cuba and want the truth about it, subscribe for the

HAVANA POST,

the only English paper on the Island. Published at Havana, Cuba. \$1.00 per month, \$10.00 per year. Daily (except Monday).

AN EGG MAKER

Nothing equals green cut bone for hens.
Any one can cut it with

Mann's Latest Bone Cutter.

Open hopper. Automatic feed. 10 Days' Free Trial. No pay until you're satisfied. If you don't like it, return at our expense. Isn't this better for you than to pay for a machine you never tried? Cost? free.

F. W. MANN CO.,
Box 37, Milford, Mass.



BUY YOUR TREES DIRECT FROM
AT WHOLESALE PRICES **The GROWER**
Full Line. Best Stock. Low Prices.
Write for FREE Catalog.
GROVER NURSERY CO., ROCHESTER, N. Y.

4,000,000 PEACH TREES

TENNESSEE WHOLESALE NURSERIES.

June Buds a Specialty.

No agents traveled, but sell direct to planters at wholesale prices. Absolutely free from diseases, and true to name. Write us for catalog and prices before placing your order elsewhere. We guarantee our stock to be true to name. Largest peach nursery in the world. Address **J. C. HALE, Winchester, Tenn.**

Envelopes!!

Printed to Order \$1 per 1000

Heavy, white, high-cut, size 6½. A neat little coupon on each envelope will earn you dollars. Other stationery cheap. For particulars and sample, address at once **Howard Co., 516 Masonic Temple, Chicago, Ills.**

Apiary for Sale.

Owing to my age I have decided to sell my yard of 16 colonies, with extra hives, supplies, etc. Price only \$75 for the entire outfit. Some colonies have made 75 lbs. each, comb honey, this season. A bargain. Call on or address

R. L. Holman, Springfield, O.

Sections, Shipping Cases, Honey Cases,

and every thing necessary for the bee keeper.

FINE ITALIAN QUEENS.

Prompt shipping.

Catalog Free.

C. M. Scott & Co., Indianapolis, Ind.

1004 East Washington Street.

FOR SALE--75 colonies Italian bees in 10-frame hives; also 100 colonies in 8-frame hives at \$4.50 each; in lots of 10, \$4.00 each.

F A GRAY.

Redwood Falls, Minn.

In the previous issue, a typographical error made me say, "In lots of 10, \$1.00 each." It should read \$4.00 each.

FOR SALE--150 colonies of Italian bees in good hives.
D. J. RICHARDSON, Valley Center, San D. Co., Cal.



First class to Denver, Colorado Springs, and Pueblo from Chicago, daily, throughout the summer, good returning October 31. The

Colorado Special

fast daily train, one night to Denver from Chicago and the central States (only two nights enroute from the Atlantic seaboard), leaves Chicago daily 6:30 P. M.

A second daily train leaves Chicago 11:30 P. M. Personally conducted excursions in tourist sleeping-cars.

For sleeping-car reservations, descriptive pamphlet, "Colorado Illustrated," and full particulars, address

A. F. CLEVELAND, 234 Superior St., Cleveland, O.

\$30
Colorado

And Return.

**FARM
LANDS**

NET
\$1528.75
FROM
ONE
ACRE,

one season, planting in rotation cauliflower, cucumbers, egg-plants, in beautiful, health-giving Manatee County. The most fertile section of the United States, where marvelous profits are being realized by farmers, truckers, and fruit-growers. Thousands of acres open to free homestead entry.

Handsomely illustrated descriptive booklets, with list of properties for sale or exchange in Virginia, the Carolinas, Georgia, Florida, and Alabama, sent free. JOHN W. WHITE, Seaboard Air Line Railway, Portsmouth, Va.
Splendid Location for Bee-keepers.

THE LUCKY "4-LEAF CLOVER"



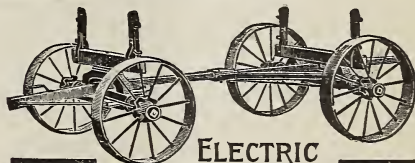
Plymouth Cream Extractor is the CREAM of them all. Inner can quickly removable; water all around and under milk; has far greater cooling surface than any other. No water required 5 months in year. Special air chamber with ventilator. New and original faucet, impossible to leak or sour. Express charges prepaid. Catalogue free.

Plymouth Cream Separator Company, Plymouth, Ohio.



Half a century of fair dealing has given our products that prominence which merit deserves. We still offer everything of the best for Orchard, Vineyard, Lawn, Park, Street, Garden and Greenhouse. Catalogue No. 1, 112 pages, free to purchasers of Fruit and Ornamental Trees. No. 3, 64 pages, free to buyers of Holland Bulbs and Greenhouse Plants. Try us; we guarantee satisfaction. Correspondence solicited.

THE STORRS & HARRISON CO.,
PAINESVILLE, OHIO.



Handy Farm Wagons

make the work easier for both the man and team. The tires being wide they do not cut into the ground; the labor of loading is reduced many times, because of the short lift. They are equipped with our famous Electric Steel Wheels, either straight or stagger spokes. Wheels any height from 24 to 60 inches. White hickory axles, steel hounds. Guaranteed to carry 4000 lbs. Why not get started right by putting in one of these wagons. We make our steel wheels to fit any wagon. Write for the catalog. It is free.

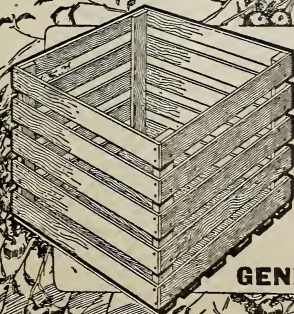
ELECTRIC WHEEL CO., BOX 95, QUINCY, ILL.

Wood-working Machinery.

For ripping, cross-cutting, mitring, grooving, boring, scroll-sawing, edge moulding, mortising; for working wood in any manner. Send for catalog A. The Seneca Falls Mfg Co., 44 Water St., Seneca Falls, N. Y.



Foot
and Hand
Power



VENTILATED BUSHEL CRATES

These crates are the most convenient things that can be used on the farm. Apples, potatoes and other fruits and vegetables can be gathered, stored and taken to market in them without rehandling. They allow air to circulate freely through them. Our crates cost 8 cents each ready to nail together. Made of best material and with decent care will last a lifetime. Can be "nested" together to store away. Our illustrated booklet No. 12 telling all about them free.

GENEVA COOPERAGE CO., GENEVA, O.

Queens from Jamaica

ANY DAY IN THE YEAR AT THE FOLLOWING PRICES:

Untested, 66c; tested, \$1.00; select tested, \$1.50; breeders, \$2.50. Our queens are reared from the very finest strains. Please write your address plainly when ordering. Address

Geo. W. Phillips, Sav-La-Mar P. O.,
Jamaica, W. I.

When you want Queens that please, and want them

By Return Mail,

join the crowd and send here where the spring rush is now over. I can guarantee them to leave promptly from now on, and arrive safe. *Best Honey Strains only* are bred from Golden, Carniolans, leather-colored Italians. 75c each, or \$7.50 per dozen; tested, \$1.00 each, or \$10.00 per dozen.

George J. Vande Vord, Daytona, Fla.

Warranted Queens.

L. H. Robey, Dear Sir:—Enclosed find one dollar and twenty cents (\$1.20) for which you will please send me two (2) warranted queens. The queens you sent me last year have proved to be excellent. I introduced one into a three frame nucleus on Aug. 22, 1902, and on Aug. 25, 1903, I took 228 lbs. of comb honey, leaving 10 Hoffman frames in the brood-chamber for the coming winter; that is very good for a nucleus. Be sure to give my street number, 525 Dakota St., for the queens you sent me last year were carried to another Wm. Zimmerman, and I did not get them until the next day.

WM ZIMMERMAN.

San Antonio, Texas.

Warranted queens, 60 cts. each in any quantity. Satisfaction guaranteed or money refunded.

L. H. ROBEY, WORTHINGTON, W. VA.

Circular Free.

Queens == 1903 == Queens.

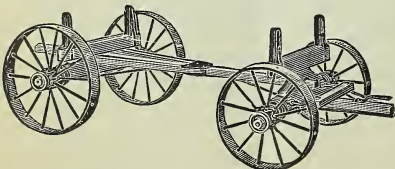
We have ten different yards five to twenty miles apart, where Italians, Cyprians, Holylands, Carniolans, and Albinoes, are bred for business. Tested queens, \$1.50; \$8.00 for 6; \$15.00 per dozen. Untested, \$1.00 each; \$5.00 for 6; \$9.00 per dozen. Our best and finest breeders, \$5.00 each. One and two frame nuclei a specialty. Bees and Queens in any quantity to suit purchaser. Safe arrival and reasonable satisfaction guaranteed. ORDER "The Southland Queen," \$1.00 per year. Send for sample copy and our 1903 catalog; tells how to raise queens and keep bees for profit.

Root's Supplies.

The Jennie Atchley Co., Box 18, Beeville, Tex.

Farm Wagon only \$21.95.

In order to introduce their Low Metal Wheels with wide Tires, the Empire Manufacturing Company, Quincy, Ill., have placed upon the market a Farmer's Handy Wagon, that is only 25 inches high, fitted with 24 and 30 inch wheels with 4-inch tire, and sold for only \$21.95.



This wagon is made of the best material throughout, and really costs but a trifle more than a set of new wheels, and fully guaranteed for one year. Catalog giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who will also furnish metal wheels at low prices made any size and width of tire to fit any axle.

Gleanings in Bee Culture

[Established in 1873.]

Devoted to Bees, Honey, and Home Interests.

Published Semi-monthly by

The A. I. Root Co., - - Medina, Ohio.

A. I. ROOT, Editor of Home and Gardening Dep'ts.
E. R. ROOT, Editor of Apicultural Dept.
J. T. CALVERT, Bus. Mgr.
A. L. BOYDEN, Sec.

TERMS. \$1.00 per annum; two years, \$1.50; three years, \$2.00; five years, \$3.00, *in advance*; or two copies to one address, \$1.50; three copies, \$2.00; five copies, \$3.75. The terms apply to the United States, Canada, and Mexico. To all other countries 48 cents per year extra for postage.

DISCONTINUANCES. The journal is sent until orders are received for its discontinuance. We give notice just before the subscription expires, and further notice if the first is not heeded. Any subscriber whose subscription has expired, wishing his journal discontinued, will please drop us a card at once; otherwise we shall assume that he wishes his journal continued, and will pay for it soon. Any one who does not like this plan may have his journal stopped after the time paid for by making his request when ordering.



EARLY-ORDER DISCOUNTS.

Applying to the new prices in effect this date, we offer the following discounts for early orders. There is a great gain to those who are forehanded, and order their next season's requirements early in the fall or winter over the one who waits till the eleventh hour in the spring before placing his order. He can get his hives nailed and painted, and filled with fixtures; during the leisure time in winter, prepare supers, sections, and even shipping-cases, in readiness for the busy months of spring. He has the goods on hand when needed, and can take full advantage of the honey-flow when it comes. We also allow a discount that will more than pay the interest on his money invested in the supplies a few months before they are actually needed. Many passed an unfavorable experience through the past season in being disappointed in getting goods promptly when most needed in the spring. Manufacturers were crowded beyond their capacity to supply the goods needed with promptness, in spite of unusual preparation. For these and other reasons which might be stated we urge every one, as far as possible, to place orders early, and profit by the following discounts

On orders accompanied by remittance received during September, deduct 7 per cent; during October, deduct 6 per cent; November, 5 per cent; December, 4 per cent; January, 3 per cent; February, 2 per cent. After February, no discount. This applies to all general orders for next season's use at regular prices, with the following exceptions:

Glass and tin honey-packages of all kinds; scales, books, burlap, rubber stamps, labels, wheelbarrows, lawn-mowers, bushel boxes, bees and queens, and all goods listed in special catalogs and circulars other than our general catalog of bee-keepers' supplies. The discount is intended to apply mainly to hives, frames, foundation, sections, section-holders, separators, fences, shipping-cases, extractors, smokers, and other bee-keepers' requisites too numerous to mention, listed in our catalog before page 26, including pages 28, 35, and 36.

Sept. 1, 1903.

TABLE OF PRICES OF COMPLETE HIVES.

If you should want a different cover or bottom than the one listed in the regular combination, simply substitute the letter which designates the cover or bottom wanted in the combination or have ordered. For instance, all the hives are regularly furnished with Danz. (A) bottom and Excelsior (E) cover. If you want the B bottom and Gable cover use the letters BG, instead of AE. In like manner any change desired may be indicated.

In ordering use the designating number or letter which follows on the same line the description of the hive or part wanted. Carry out the price extended on the same line under the quantity required as given.		Designating Letter.	Nailed and Painted.	EIGHT-FRAME KD IN FLAT. PRICE IN LOTS OF				Weight of ten in lbs.	Nailed and Painted.	TEN-FRAME KD IN FLAT. PRICE IN LOTS OF				Weight of ten in lbs.	
				1	5	10	25			1	5	10	25		
1-story hive, no super or upper story—Fig. 504			\$ c.					Lbs.	\$ c.					Lbs.	
Without foundation starters.....		AE5	1 80	1 35	6 25	11 50	27 00	200	1 90	1 45	6 75	12 60	29 50	215	
With foundation for 1-inch starters.....		AE6	1 90	1 45	6 50	12 00	28 25	200	1 55	7 00	13 10	30 75		215	
1½-story hive for extracted honey—Fig. 510															
Without foundation starters.....		AE58	2 45	1 85	8 50	15 50	36 25	270	2 60	2 00	9 25	17 00	40 00	295	
With foundation for 1-inch starters.....		AE69	2 65	2 00	9 00	16 50	38 75	270	2 80	2 15	9 75	18 00	42 50	295	
2-story hive for extracted honey, see Fig. 511															
Without foundation starters.....		AE55	2 80	2 15	10 00	18 50	43 25	320	2 95	2 30	10 75	20 00	47 00	350	
With foundation for 1-inch starters.....		AE66	3 00	2 30	10 50	19 50	45 75	320	3 15	2 45	11 25	21 00	49 50	350	
1½-story hive for comb honey, no sections or starters, for 4¼x1¼ beeway sections.....		AE52S						270						290	
For 3¾x5x1¼ plain sections.....		AE52P	2 45	1 85	8 50	15 50	35 25	260	2 60	2 00	9 25	17 00	40 00	295	
For 4x5x1¼ plain sections in Danz. super		AE52I						275						285	
1½-story hive for comb honey, complete with sections and foundation for 1-inch starters.....		AE52M	2 60	2 00	9 25	17 00	40 00	290	2 75	2 15	10 00	18 50	43 75	315	
With 4¼x1¼ beeway sections—Fig. 507.....		AE64S						280						305	
With 4¼x1¼ plain sections—Fig. 506.....		AE64P	2 85	2 15	9 75	18 00	42 00	270	3 00	2 30	10 50	19 50	45 75	295	
With 3¾x5x1¼ plain sections.....		AE64I						285						310	
With 4x5x1¼ plain sections—Fig. 508.....		AE64M	3 00	2 30	10 50	19 50	45 75	310	3 15	2 45	11 25	21 00	49 50	335	
2-story hive for comb honey without sections or foundation starters.....															
For 4¼x1¼ beeway sections.....		AE522S						340						365	
For 4¼x1¼ plain sections.....		AE522P	3 10	2 35	10 75	19 50	45 50	320	3 30	2 55	11 75	21 50	50 50	375	
For 3¾x5x1¼ plain sections.....		AE522I						350						385	
For 4x5x1¼ plain sections in Danz. supers		AE522M	3 40	2 65	12 25	22 50	53 00	360	3 60	2 85	13 25	24 50	58 00	415	
2-story hive for comb honey with sections and foundation for 1-inch starters:															
With 4¼x1¼ beeway sections.....		AE644S						360						395	
With 4¼x1¼ plain sections.....		AE644P	3 80	2 85	13 00	24 00	55 75	340	4 00	3 00	14 00	26 00	60 75	475	
With 3¾x5x1¼ plain sections.....		AE644I						370						395	
With 4x5x1¼ plain sections in Dz. supers		AE644M	4 10	3 15	14 50	27 00	63 25	420	4 30	3 30	15 50	29 00	68 25	455	
BOTTOMS, COVERS, SUPERS, and HIVE PARTS															
Danz. bottom or floor board with rim—Fig. 501		A	}	35	22	1 00	1 90	4 50	35	37	24	1 10	2 10	5 00	37
Bottom, ¾-in. boards, reversible—Fig. 405.....		B		50					50						43
Combined bottom and stand—Fig. 305.....		C		40					40						54
Danz. metal bound flat cover, made—Fig. 500		D		42					42						52
Excelsior cover, shown in Fig. 301.....		E		47					47						45
Flat cover, double, paper covered—Fig. 402.....		F	}	45	33	1 50	2 70	6 25	47	48	36	1 65	3 00	7 00	45
Gable cover, ventilated, shown Fig. 404.....		G		47					47						52
Hive-stand to use with A or B bottom—Fig. 600		H		53					53						60
Metal-roofed telescope cap, 1½ inches deep, to fit over hive and super.....		K		45					45						62
Metal-bound super-cover, ¾ inch thick, to use with telescope cap.....				53					53						50
Empty hive body, 9½ deep, with tin rabbits			}	25	15	70	1 30	3 00	45	25	15	70	1 30	3 00	48
Body with frames only—no division-board.....				80	62	3 00	5 70	13 25	75	85	65	3 10	6 00	14 00	80
Body with frames and division-board.....		5		15	15	75	1 30	3 00	15	15	75	1 30	3 00	15	85
Body with frames and division-board.....				55	45	2 70	8 30	9 00	80	58	48	2 10	4 00	9 50	85
Body with frames and division-board.....				90	85	4 00	7 50	17 50	90	90	85	4 00	7 50	17 50	125
Body with frames and division-board.....		5	1 00	80	5 75	7 00	16 25	120	1 05	95	4 25	8 00	18 75	130	
Body with frames, inch foundation-starters, and division board.....		6	}	1 10	90	4 00	7 50	17 50	120	1 15	80	3 75	6 90	16 25	130
Body with frames wired, full sheets found'n		7		1 90	1 40	6 75	13 00	30 00	125	2 05	1 60	7 75	15 00	35 00	140
Jumbo body with frames and division-board.....		J5		1 10	90	4 25	8 00	18 75	140	1 15	95	4 50	8 50	20 00	160
Jumbo body with frames and inch fdn. start's		J6		1 20	1 00	4 50	8 50	20 00	140	1 25	1 05	4 75	9 00	21 25	160
Shallow super empty with flat tins only.....				35	23	1 00	1 90	4 50	40	37	24	1 10	2 10	5 00	42
With section-holders, separators, followers, and springs for 4¼ beeway sections		2S	}	65	50	2 25	4 00	9 25	70	70	55	2 50	4 50	10 50	75
With plain section-holders, fences, bevel cleats, and springs for 4¼ plain sections		2P		80					80						90
2S super with 1½ beeway sections added.....		3S		85	65	3 00	5 50	12 50	70	90	70	3 25	6 00	13 75	80
2P super with 1½ plain sections.....		3P		80					80						90
2S with beeway sections, starters—Fig. 8		4S		95	70	3 25	6 00	13 75	80	1 00	75	3 50	6 50	15 00	80
2P with plain sections, starters—Fig. 308		4P	70	50	2 00	3 50	8 00	70	88	26	1 10	2 10	5 00	48	
Deep Supers, empty with flat tins only.....				35	25	1 05	2 00	4 75	45	38	26	1 10	2 10	5 00	48
With slats and I fences.....		2I	}	65	50	2 25	4 00	9 25	75	70	55	2 50	4 50	10 50	80
With slats and L fences.....		2L		75					75						80
2I with 3¾x5x1¼ plain sections.....		3I		85	65	3 00	5 50	12 50	85	90	70	3 25	6 00	13 75	95
2L with 4x5x1¼ plain sections.....		3L		85					85						95
2I with sections and inch found. starters.....		4I		95	70	3 25	6 00	13 75	85	1 00	75	3 50	6 50	15 00	95
2L with sections and inch found. starters		4L	}	85				85						95	
With shallow ext.-frames and div.-board		8		65	50	2 25	4 00	9 25	70	70	55	2 50	4 50	10 50	80
With frames and inch foundation starters		9		75	60	2 50	4 50	10 50	70	80	60	2 75	5 00	11 75	50
With hanger-cleats, Danz. sect'n-holders, M fences, springs, cleats, and wedges.....		2M		80	65	3 00	5 50	13 00	90	85	70	3 25	6 00	14 25	100
2M with 4x5x1¼ plain sections.....		3M		1 00	80	3 75	7 00	16 25	110	1 05	85	4 00	7 50	17 50	120
2M with sections, inch starters, Fig. 409.....		4M	1 10	85	4 00	7 50	17 50	110	1 15	90	4 25	8 00	18 75	120	

The L super with 4x5x1¼ plain sections is furnished only in 8-frame size. The M, super, 8 frame size, has only six fences, as there is no room for the two outside fences used in all other supers taking fences, except as it is made ¾ of an inch wider. Hives with deep brood-chambers, or Jumbo size, will be supplied in any of the combinations at 10 cents each extra, either 8 or 10 frame. C combined bottom and stand will be substituted at 5 cents each extra. Frames in hives may be pierced and wire included at 2 cents per live extra. If wanted add PV after the hive number, add 10 cents for each crate of five. Ten frames fill a 10-frame hive without division-board.

Table of Prices of Dovetailed
Chaff Hives.

	Designat- ing Letter.	Nailed and Painted.	EIGHT-FRAME KD IN FLAT PRICE IN LOTS OF				Weight of Ten.	Nailed and Painted.	TEN-FRAME KD IN FLAT PRICE IN LOTS OF				Weight of Ten.
			1	5	10	25			1	5	10	25	
-story Chaff Hive, no super or upper story, with tel. and super cover and chaff-tray. Without foundation starters.....	YW5	3 25	2 70	12 25	23 00	54 50	400	3 50	2 80	12 75	21 10	57 00	410
With foundation for 1-inch starters.....	YW6	3 45	2 80	12 50	23 50	55 75	400	3 60	2 90	13 00	24 60	58 25	410
1½-story Chaff Hive for comb honey with- out sections or foundation starters													
For 4¼x1¼x1½ beeway sections.....	YW52S						470						490
For 4¼x1¼x1½ plain sections.....	YW52P						460						480
For 3½x5x1¼ plain sections.....	YW52I						475						495
For 4x5x1½ plain sections, in D. super	YW52M						490						525
Same with sections and foundation starters													
With 4¼x1¼x1½ beeway sections.....	YW64S						480						515
With 4¼x1¼x1½ plain sections.....	YW64P						470						505
With 3½x5x1½ plain sections.....	PW64I						485						520
With 4x5x1½ plain sections, in D. super	YW64M						510						550
Telescope cover, 7 inches deep.....	Y	75	60	2 75	5 00	12 00	100	80	63	2 90	5 30	12 75	105
Deep Telescope cover, 11 inches deep.....	X	85	70	3 25	6 00	14 00	120	90	73	3 40	6 30	15 25	125
Chaff-tray.....		30	25	1 10	2 00	4 50	30	30	25	1 10	2 00	4 50	30
Super-cover.....		15	15	70	1 30	3 00	15	15	15	70	1 30	3 00	15
Chaff-hive body with tight bottom.....	W	1 70	1 35	6 00	11 80	27 50	200	1 75	1 40	6 15	12 00	28 75	205
Chaff-hive body with frames and div. board	W5	2 15	1 70	7 75	15 00	34 00	240	2 25	1 80	8 10	15 50	36 75	250
Chaff-hive body with frames and starters.....	W6	2 25	1 80	8 00	15 50	36 25	240	2 35	1 90	8 60	16 00	38 00	250
Winter-case body with padded sticks.....	Z	75	60	2 75	5 00	12 00	80	80	62	2 85	5 20	12 25	85
Winter-case with 7 inch cover complete.....	YZ	1 50	1 20	5 50	10 00	24 00	180	1 60	1 25	6 75	10 50	25 00	190

Price List of Danzenbaker Hives and Parts.

DESCRIPTION OF PARTS.

	Designat- ing letter or number.	Nailed Painted	PRICE IN FLAT IN LOTS OF				Weight of Ten.
			1	5	10	25	
Adjustable bottom, floor made up.....	A	37	24	1 10	2 10	5 00	37
Metal-bound cover, made up.....	D	48	36	1 65	3 00	7 00	45
Metal-roofed telescope, cap 1½ inches deep.....	K	85	65	3 10	6 00	14 00	80
Metal-bound super-cover ¾ inch thick, to be used with cap.....		15	15	75	1 30	3 00	15
Danzenbaker hive-body with 10 frames and follower.....	D5	1 00	30	7 75	7 00	16 25	120
The same as D5 with foundation for 1-inch starters added.....	D6	1 10	90	4 00	7 50	17 50	120
One-story hive consisting of cover, bottom, body, with frames and folio	D. AD5	1 85	1 40	6 50	12 00	28 25	200
The same as AD5 with foundation for 1-inch starters.....	D. AD6	1 95	1 50	6 75	12 50	29 50	200
Danz. super with 8 section-holders, 9 fences, 3 springs, without sections	2M	85	70	3 25	6 00	14 25	100
Danzenbaker super, same as 2M with 32 4x5 plain sections.....	3M	1 05	85	4 00	7 50	17 50	120
Same as 3M with foundation for 1-inch starters.....	4M	1 15	90	4 25	8 00	18 75	120
1½-story Danzenbaker hive complete without sections and starters.....	D. AD52M	2 70	2 10	9 75	18 00	42 50	300
1½-story Danzenbaker hive complete with sections and starters.....	D. AD64M	3 10	2 40	11 00	20 50	48 25	320
Either above hives with telesc. cap. and super-cover instead of flat, add		50	45	2 20	4 30	10 00	

Danz. brood frames, \$2.50 per 100; section-holders, \$2.25 per 100; hanger cleats, 3c each; \$2.50 per 100.

SHIPPING-CASES. NAME AND SIZE OF CASE.	Nailed, each.	Price com- plete includ- ing 3-inch glass 1 side, nails, & pa- per, in flat.	With 2-inch glass instead of 3 per 100.	Without the glass per 100.	Wt. per 100— in lbs.
12-in. 4-row for 4¼ s'n	30	25 2 00	\$18 00	\$17 00	\$16 00 450
10-in. 4-row	30	25 2 00	17 00	16 00	15 00 400
12-in. 2-row	20	15 1 30	11 00	10 50	10 00 225
10-in. 2-row	20	15 1 20	10 50	10 00	9 50 200
16-in. 2-row	25	18 1 50	12 00	11 50	11 00 300
8-in. 3-row	20	15 1 30	11 50	10 75	10 00 225
6¼-in. 3-row	20	15 1 20	11 00	10 25	9 50 200
7½-in. 4-row for 4x5	30	22 1 80	16 00		14 00 300
7½-in. 3-row	25	20 1 40	12 00		10 50 250
9½-in. 4-row for 3½x5	30	22 1 80	16 00		14 00 350
6¼-in. 3-row	20	15 1 20	11 50		10 00 200

PRICE LIST OF SECTION-HOLDERS, SEP-
ARATORS, AND SLATS.

	Price of 100	Price of 500	Wt. of 100
Slotted section-holders, 1½x18½ outside	2 00	9 00	35 lbs
Slotted section-slats, 1½x17½ outside.....	1 00	4 50	15 lbs
Plain section-holders, 1½x17½ outside.....	1 60	7 50	20 lbs
Ideal plain slats, ¾x1½x18½.....	1 00	4 50	18 lbs
L plain slats, ¾x1½x12.....	1 00	3 25	10 lbs
Slotted sawed separators, 4½x18½.....	1 00	5 00	8 lbs
Plain sawed separators 3¼x17 to 20.....		70 30	6 lbs
Slat separators.....	1 60	7 00	10 lb
I, P, S, T, and L fences.....	1 75	8 00	11 lb
M fences.....	1 90	8 50	13 lb

Name.	Put up 100	In flat 10 100	Wt. of 500 100
Hoffman frames, end-spaced	4 00	30	2 75 12 50 40 lbs.
Thick-top staple-spaced frs.....	4 00	30	2 50 11 50 38 lbs.
All-wood frames.....	3 00	25	2 00 9 00 25 lbs.
Shallow ext.-frames (5½-in.)	3 00	25	2 00 9 00 22 lbs.

Price List of Feeders.

	Price of 10	Weight of 10.
Simplicity feeder.....	8	65 3 lbs.
Division-board feeder, nailed.....	30	2 50 15 lbs.
Division-board feeder, in flat.....	20	1 80 15 lbs.
Boardman feeder, 2-qt., complete.....	25	2 20 20 lbs.
Boardman feeder, in the flat, with- out jar but with special cap.....	15	1 20 4 lbs.
Special caps only, for either Mason or lightning jars.....	5	40 1 lb.
Pepper-box feeder, 1 pint.....	8	70 4 lbs.
Pepper-box feeder, 1 quart.....	10	90 6 lbs.
Miller's feeder, nailed up.....	35	3 00 40 lbs.
Miller's feeder, in flat.....	30	2 50 40 lbs.

FOLDING CARTONS.—Page 25.

NAME OR DESIGNATION.	Price.	100	500	1000
1-lb. carton, plain, 1c each; 25 for 20c.....	\$ 75	83 25	\$6 00	
1-lb. carton, printed one side, one col- or, name blank.....	80	3 50	6 50	
1-lb. carton, printed one side, one col- or, name and address.....	1 30	4 00	7 00	
1-lb. carton, printed two or three col- ors one side, or one color both sides	1 40	4 25	7 50	

COMB FOUNDATION.—Page 16.

GRADE.	Size, and sheets per pound.	In lots of				
		1 lb.	5	10	25	50
Medium Brood.....	7¾x16½ 7 to 8	58	55	53	51	50
Light Brood.....	7¾x16½ 9 to 10	60	57	55	53	52
Thin Super.....	3¾x15½ 32	65	62	60	58	57
Extra Thin.....	3¾x15½ 32	70	65	63	61	60

GINSENG.

Now is the time to start a ginseng-garden. September, October, and November are the best months to reset the roots or sow the seed. You should buy from responsible parties, so that you will not get the Japanese ginseng. It is a cheap and worthless ginseng that has been exported to this country to a great extent. True American ginseng is a great money plant.

These are the kind of letters I get:

JOPLIN, Mo., April 20, 1903.

Mr. A. P. Young:—I have yours of a recent date, and note what you have to say in regard to the wild plants. You may enter my order for 4000 one-year-old plants; 2500 two-year, and 2000 three-year-old plants, at prices quoted, \$45, \$65, and \$100 per 1000. These, you remember, are for fall delivery. I want nice roots, and it may be that I could use double the amount of this order. If I conclude to use more, can you furnish them?

JOPLIN, Mo., May 5, 1903.

Mr. A. P. Young:—I have yours of a recent date, and noted contents. You may book my order for 2000 more three-year-old plants at prices quoted.

LEBANON, Ky., June 17, 1903.

Mr. A. P. Young:—I am thinking very seriously of putting several hundred dollars into the cultivation of ginseng, provided I can get the seeds and roots at the right price. Please quote me your best prices.

SHARON, Mich., July 24, 1903.

Mr. A. P. Young:—Have you any ginseng roots for sale this fall? If so, I shall want from \$100 to \$200 worth of seedlings—two and three year-old plants. I am an invalid, and have been all my life. I have a few hundred dollars laid by that I should like to invest in something that would not require much labor to look after, and bring me more than 3 per cent for my money. A friend here who has a small garden that he started three years ago advised me to try ginseng culture. Give me your lowest cash prices on the above sizes.

HARRISBURG, Pa., Aug. 15, 1903.

Mr. A. P. Young:—I am going to start a ginseng-garden this fall at Lansing, Michigan, and shall want about \$200 or \$300 worth of one and two year-old plants and stratified seed, all first-class stock. What can you furnish them to me for? Write me at Reading, Pa., as I am a traveling man, and am working this State now.

For prices address

A. P. YOUNG, Cave City, Ky.

Wants and Exchange.

Notices will be inserted under this head at 10 cts. per line. You must say you want your advt in this department, or we will not be responsible for any error. You can have the notice as many lines as you please; but all over ten lines will cost you according to our regular rates. We can not be responsible for dissatisfaction arising from these "swaps."

WANTED.—To sell bees and queens.

O. H. HYATT, Shenandoah, Iowa.

WANTED.—Comb and extracted honey. See honey column.

GLEASON & LANSING, Buffalo, N. Y.

WANTED.—To sell fine job-printing outfit, nearly new.

J. W. STEBBINS, Broad Creek, Va.

WANTED.—To sell or exchange Dayton computing scale, cost \$60; good as new. Will take \$30 in white extracted honey, or any thing I can use.

J. M. ROOD, Delray, Mich.

WANTED.—A buyer for good feed yard; also wood and coal; one-half block from square; good water; nice town; good country surrounding. For full information address

A. O. YOUNG, Appleton City, Mo.

WANTED.—To sell 10 colonies Italian bees in Danz. hives all with select tested queens. First year made 169 lbs. from two colonies; ready for delivery any time in October, at \$4.50

CHAS. E. SELCHOW, Port Chester, N. Y.

WANTED.—A partner in the bee business, box factory, and a patent bee-hive.

D. S. HALL, So. Cabot, Vt.

WANTED.—Your address on a postal for a little book on Queen-Rearing. Sent free.

Address HENRY ALLEY, Wenham, Mass.

WANTED.—Old postage stamps, especially foreign. Send list of what you have to offer and price asked with samples.

A. L. BOYDEN, Medina, Ohio.

WANTED.—To exchange modern firearms for old gold watches and solid gold jewelry of any kind.

W. S. AMMON, Reading, Pa.

WANTED.—You to read the advt of ginseng on this page. For prices address

A. P. YOUNG, Cave City, Ky.

WANTED.—An active, honest, experienced helper in the bee and honey business. Good habits and good references required. A permanent job for the right man.

B. WALKER, Clyde, Ill.

WANTED.—Position by a young man and his wife as demonstrators, or to have charge of an exhibit, at the St. Louis Exposition. Bonds if required.

E. C. C. Floresville, Texas.

WANTED.—To sell Foxhound puppies and dogs, Hovey strain, some Cocker Spaniel, finely bred. Write for prices.

W. H. GIFFORD,

151 Franklin St., Auburn, N. Y.

WANTED.—To sell for cash, 5-gal. square tin cans, used for honey, at about half price of new cans. For prices, etc., address

OREL L. HERSHISER,

301 Huntington Ave., Buffalo, N. Y.

WANTED.—To exchange postage stamps with collectors, especially in West Indies, Europe, British colonies, Mexico, and United States. State what you have to offer and what you want in exchange.

A. L. BOYDEN, Medina, Ohio.

WANTED.—The address of every bee-keeper that makes his own hives. The "Kold Klimat" bee-hive makes the best outside case in the world for wintering bees in any kind of hives.

D. S. HALL, So. Cabot, Vt.

WANTED.—To sell Italian queens. Untested, 60 cts. each; 3 for \$1.00; 6 for \$3.00. Safe arrival and reasonable satisfaction guaranteed. Reference, the Bank of Nevada. Send your name and address on a postal for my prices on queens for 1904.

CHAS. M. DARROW, Nevada, Mo. R. F. D. No. 3.

WANTED.—We want to send a catalog free, of the Koer Well-drilling machine to anybody who needs a well at his house, barn, or fields. Especially for domestic well-making. The farmer's friend, two or more buying and doing their own well-making when other work is not pressing. Cheapest by half, and the most practical of any. Best money-maker on the market.

J. J. KOGER & SONS, Mooresburg, Tenn.

WANTED.—To sell a splendid bee-ranch, 80 acres, 60 acres tillable; 2½ miles from Escondido. Spring of running water; well; wind-mill; 6-room 1½-story house; orchard, and hundreds of acres of sage and other good honey-plants; a very healthy location. Also 100 colonies Italian bees. Ranch \$1200.00. Bees, \$3.50 per colony. Address P. O. Box 172, Escondido, San Diego Co., Cal.

WANTED.—Lots of eggs by lots of people. We'll get more eggs when we breed from better egg-laying strains. "Blood will tell." Almost any hens when crossed with White Leghorn cockerels of a superior laying strain will produce nice white pullets that will be early and good layers. We sell S. C. White Leghorn cockerels from stock direct from Henry Van Dresser's egg-laying strain, from from 75 cts. to \$1.50 each, now. The offer not repeated.

P. HOSTETLER, East Lynne, Mo.

PAGE & LYON,

New London, Wisconsin.

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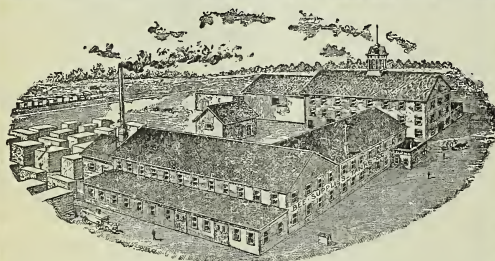
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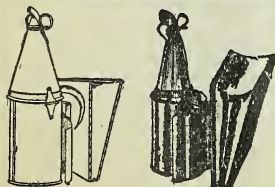
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Shugart & Ouren, Council Bluffs, Iowa.
Foster Lumber Company, Lamar, Colo.



BINGHAM SMOKER.

Dear Sir:—Inclosed find \$1.75. Please send one brass smoke-engine. I have one already. It is the best smoker I ever used.
Truly yours,
HENRY SCHMIDT, Hutto, Tex.

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Bingham Brass Smokers.

Made of sheet brass, which does not rust or burn out; should last a lifetime. You need one, but they cost 25 cts. more than tin of the same size. The little open cut shows our brass hinge put on the three larger sizes. No wonder Bingham's four-inch smoke-engine goes without puffing, and does not drop ink drops. The perforated steel fire-grate has 881 holes to air the fuel and support the fire.

Heavy tin smoke-engine, 4-inch stove, per mail, \$1.50; 3½-inch, \$1.10; 3-inch, \$1.00; 2½-inch, 90c; 2-inch, 65c. Bingham smokers are the originals, and have all the improvements, and have been the standard of excellence for 23 years. Only three larger ones brass.

T. F. Bingham, Farwell, Michigan.

A Pointer



We can supply your wants
for supplies of all kinds.

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Hives, sections, foundation,
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In fact, anything needed in
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a portion of your requirements in bee-
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Seeds, Fertilizers, Trees, Garden Tools, Poultry
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Save freight by ordering of the St. Paul branch.
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Place your order now? We will make you special prices for early delivery. We are headquarters in Central California for Root's Cowan Extractors, Sections, Weed Foundation, Smokers, etc., as well as a full line of local-made supplies. We can give you prompt service. We solicit your patronage.



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WHY DOES IT SELL SO WELL?—Because it has always given better satisfaction than any other. Because in 25 YEARS there have been no complaints, but thousands of compliments.

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